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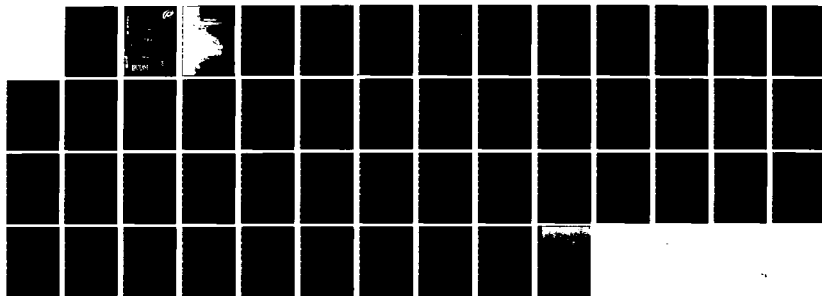
19318 BT MLRS MISSILE NUMBER V5401 ROUND NUMBER  
503/CH-1 14 OCTOBER 1983(U) ARMY ELECTRONICS RESEARCH  
AND DEVELOPMENT COMMAND NSMR NM ATH. D C KELLER  
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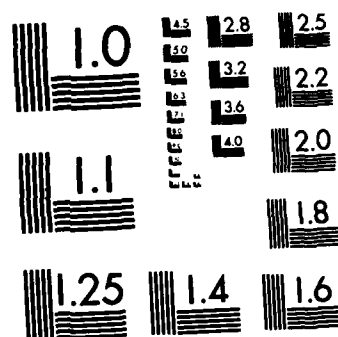
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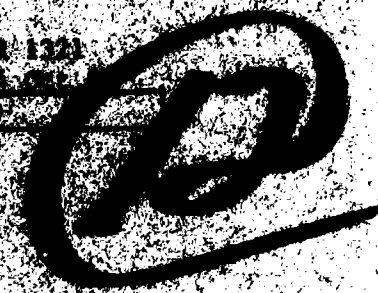




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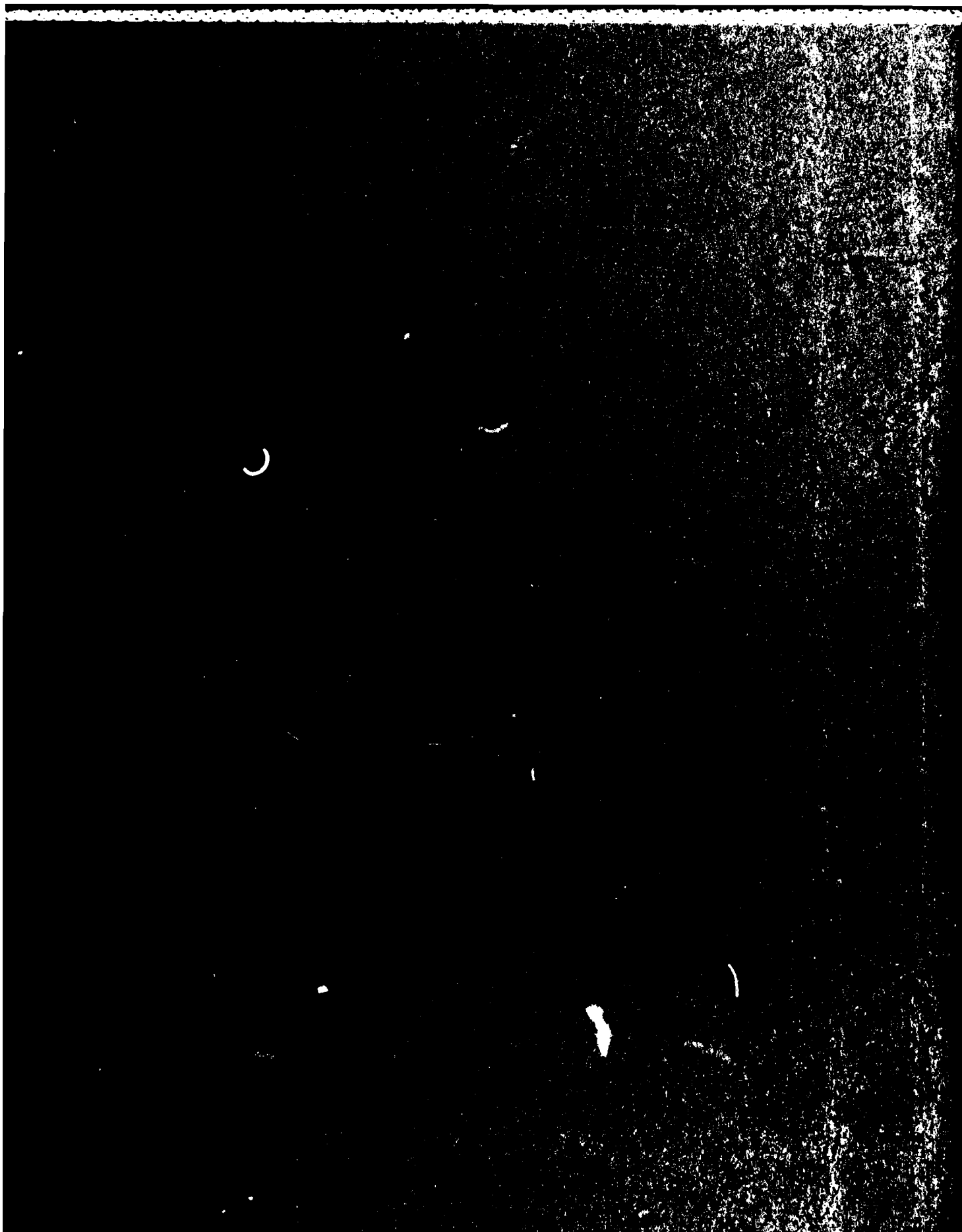
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1321	2. GOVT ACCESSION NO. AD-A134510	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle)  19318 BT MLRS Missile Number V5401 Round Number 503/CH-1		5. TYPE OF REPORT & PERIOD COVERED
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)  White Sands Meteorological Team		8. CONTRACT OR GRANT NUMBER(s)  DA Task 1F665702D127-02
9. PERFORMING ORGANIZATION NAME AND ADDRESS		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002		12. REPORT DATE October 83
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research and Development Cmd Adelphi, MD 20783		13. NUMBER OF PAGES
		15. SECURITY CLASS. (of this report)  UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)  Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19318 BT MLRS, Missile Number V5401, Round Number 503/CH-1, are presented in tabular form.		

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## INTRODUCTION

13818 BT MLRS, Missile Number V5401, Round Number 503/CH-1, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0805:26 MDT 14 Oct 1983. The scheduled launch time was 0800 MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at;

### SITE AND ALTITUDE

WSD 2 km

DON 2 km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

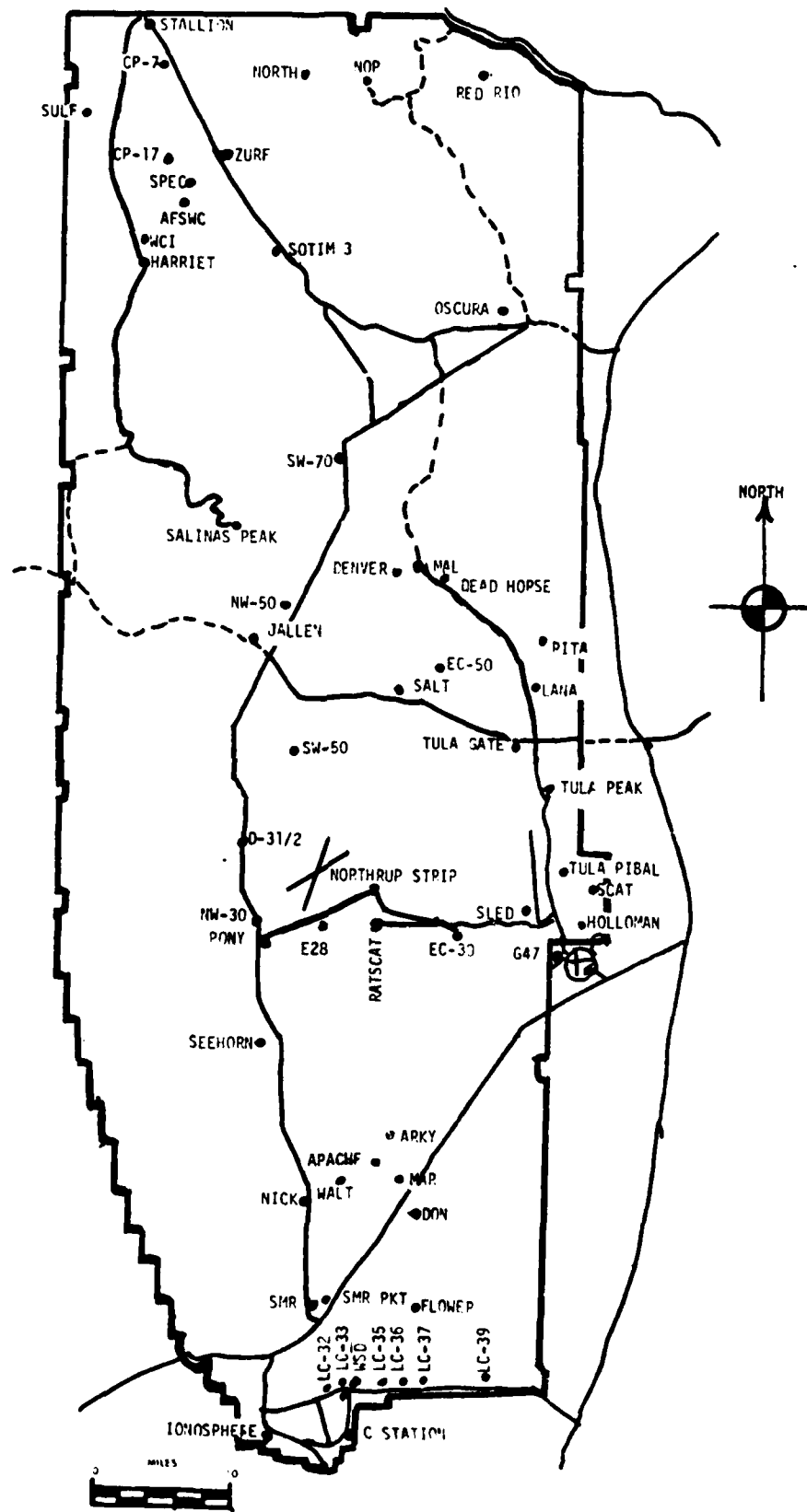
### SITE AND TIME

LC-37 0600 MDT

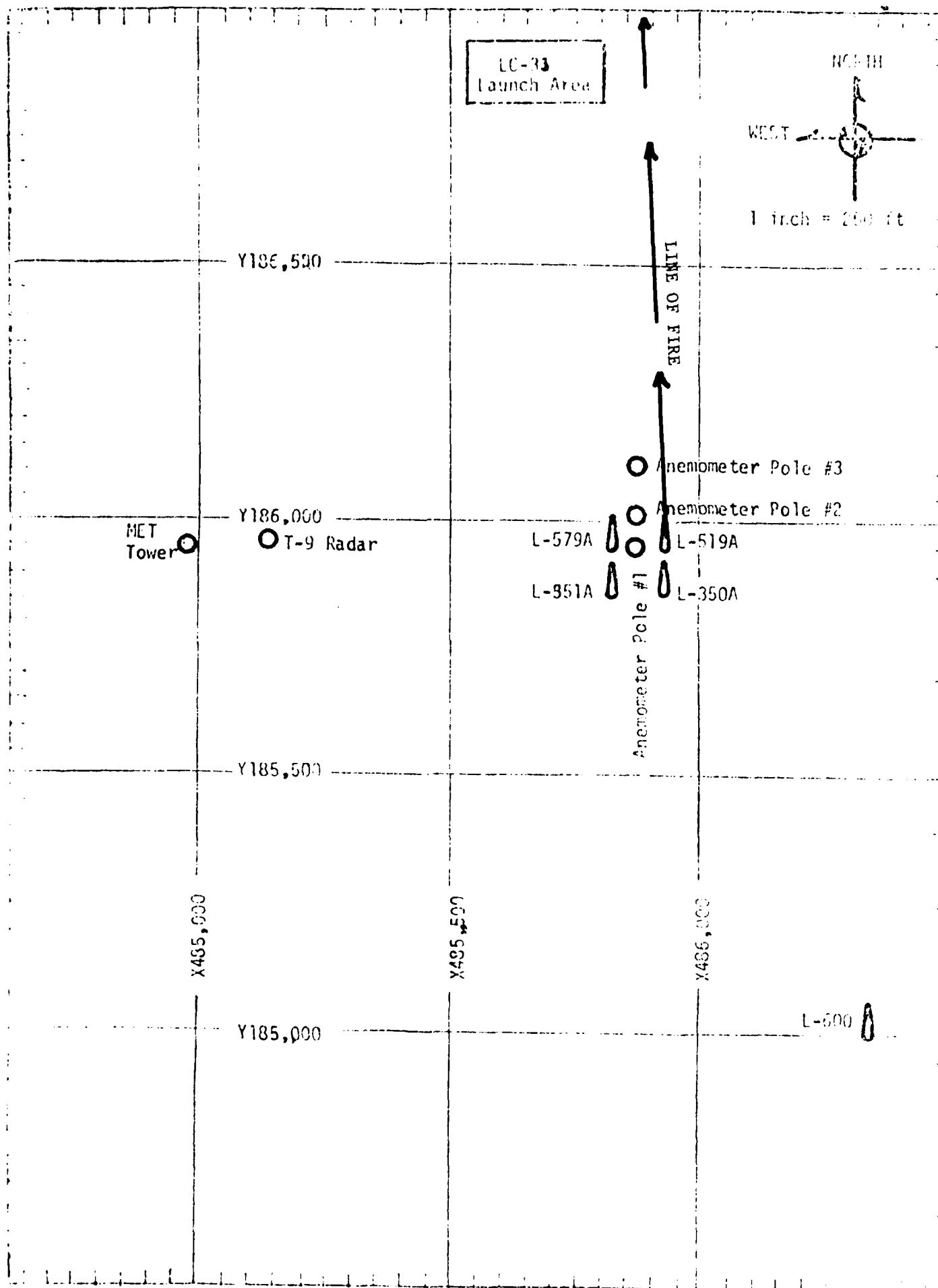
WSD 0630 MDT

WSD 0806 MDT

# WSMR METEOROLOGICAL SITES









LC-33 METEOROLOGICAL TOWER  
ANEMOMETER MEASURED WIND DATA

WSTM COORDINATES X=484,982.64 Y=185,957.73 H=3983.00 BASE

TABLE NO. 2

DATE 14 Oct 83 0806 M D Y

DAY MONTH YEAR TIME

LEVEL #1 12 FT AGL			LEVEL #2 12 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	111	04	T-30	121	05
T-20	114	04	T-20	125	06
T-10	116	03	T-10	120	06
T- 0 (1st T)	122	03	T- 0 (1st T)	123	04
T+10	113	03	T+10	125	05
T+20	128	04	T+20	128	05
T+30	125	04	T+30	125	05
T+40	126	03	T+40	129	04
T+50	123	03	T+50	131	05
T+60	139	03	T+60	137	05
LEVEL #3 102 FT AGL			LEVEL #4 202 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	132	06	T-30		CALM
T-20	138	06	T-20		CALM
T-10	141	06	T-10		CALM
T- 0 (1st T)	141	06	T- 0 (1st T)		CALM
T+10	144	05	T+10		CALM
T+20	147	05	T+20		CALM
T+30	150	05	T+30	129	02
T+40	150	05	T+40	130	02
T+50	151	04	T+50	150	02
T+60	153	04	T+60	151	02

## T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 14 October 1983

SITE: WSD

TIME: 0806 MDT

WSTM COORDINATES:

X= 488,852.29

Y= 184,982.45

H= 3,993.75

SITE: DON

TIME 0806 MDT

WSTM COORDINATES:

X= 511,988.37

Y= 247,396.36

H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	110	04
150	259	02
210	234	04
270	243	02
330	240	03
390	229	04
500	239	09
650	240	09
800	242	09
950	240	14
1150	251	19
1350	260	23
1550	256	23
1750	260	27
2000	255	35

Data obtained from a Nike-Hercules Radar  
Tracked pilot-balloon observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	200	03
150	220	08
210	225	09
270	230	09
330	235	10
390	239	11
500	243	13
650	247	13
800	252	12
950	253	14
1150	244	18
1350	247	29
1550	252	33
1750	254	30
2000	259	33

Data obtained from a Single Theodolite  
Tracked pilot-balloon observation.

AIMING AND T-TIME COMPUTER MET MESSAGES  
14 October 1983

LC-37 0600 MDT

METCM1324063

141200124873

00000000 28920873

10251005 29130862

02087003 29240838

03047001 28900799

04431006 28450753

05461026 27960709

06459037 27700667

07450038 27630627

08429043 27410589

09427035 26950553

WSD 0630 MDT

METCM1324064

141250122875

00178004 28880875

01292012 29140865

02505011 29170840

03464015 28930801

04447023 28500755

05456030 28060711

06462037 27750669

07456038 27390629

08439042 27130591

09428046 26950555

WSD 0806 MDT

METCM1324064

141410122875

00196004 28750875

01402002 29350865

02385003 29250840

03426011 29000802

04457 28550756

0545 3 28100712

06464 27740670

07454 27540630

08436 27270592

09437 26950556

STATION ALTITUDE 4651.57 FEET MSL  
14 OCT. 83  
ASCENSION IS. 133

SIGNIFICANT LEVEL DATA  
2870100135  
LC-37

TABLE 5

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MIL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
872.5	4051.4	15.0	5.8	54.0
862.1	4380.3	17.1	6.6	50.0
850.0	4784.0	19.0	6.8	45.0
842.5	7096.4	13.3	3.9	53.0
700.0	10131.7	4.5	1.5	61.0
693.6	10377.7	3.6	2.3	91.0
677.8	10992.6	2.7	-1.8	72.0
675.9	11067.4	2.6	-1.7	73.0
674.1	11138.3	2.6	-10.3	38.0
671.3	11249.1	3.3	-10.7	35.0
650.0	12106.7	3.7	-17.1	20.0
596.8	14378.6	1.7	-16.7	24.0
553.4	16357.6	-4.1	-16.7	31.0
526.2	17650.8	-7.8	-25.3	23.0
500.0	18061.4	-8.9	-28.2	19.0

STATION ALTITUDE 4051.37 FEET MSL  
14 OCT. 83  
ASCENSION NO. 133

UPPER AIR DATA  
2870180135  
LC-37

GEODETIC COORDINATES  
32.40175 LAT DEG  
106.31232 LON DEG

TABLE 6

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
4051.4	872.5	15.0	54.0	1050.6	662.6	.0	.0	1.000276
4100.0	871.0	15.3	53.4	1047.6	663.0	21.6	.0	1.000276
4200.0	867.9	15.9	52.2	1041.5	663.7	21.6	.0	1.000275
4300.0	864.8	16.6	51.0	1035.5	664.5	21.6	.0	1.000274
4400.0	861.7	17.2	49.8	1029.5	665.2	21.6	.0	1.000273
4500.0	858.6	17.6	48.6	1024.2	665.8	21.6	.0	1.000272
4600.0	855.6	18.1	47.3	1018.8	666.3	21.6	.1	1.000271
4700.0	852.5	18.6	46.1	1013.5	666.9	21.6	.1	1.000270
4800.0	849.5	19.0	45.1	1008.7	667.3	21.6	.1	1.000269
4900.0	846.5	18.7	45.4	1005.9	667.0	21.6	.1	1.000268
5000.0	843.5	18.5	45.7	1003.2	666.7	21.6	.1	1.000267
5100.0	840.4	18.2	46.1	1000.5	666.4	21.6	.1	1.000266
5200.0	837.4	18.0	46.4	997.8	666.2	21.6	.1	1.000265
5300.0	834.4	17.7	46.8	995.1	665.9	21.6	.1	1.000264
5400.0	831.5	17.5	47.1	992.4	665.6	21.6	.1	1.000263
5500.0	828.5	17.2	47.5	989.7	665.3	21.6	.2	1.000263
5600.0	825.5	17.0	47.8	987.0	665.0	21.6	.2	1.000262
5700.0	822.6	16.7	48.2	984.3	664.7	21.6	.2	1.000261
5800.0	819.7	16.5	48.5	981.7	664.4	21.6	.2	1.000260
5900.0	816.7	16.2	48.9	979.0	664.1	21.6	.2	1.000259
6000.0	813.8	16.0	49.2	976.4	663.8	21.6	.2	1.000258
6100.0	810.9	15.8	49.6	973.7	663.6	21.6	.2	1.000257
6200.0	808.0	15.5	49.9	971.1	663.3	21.6	.2	1.000256
6300.0	805.1	15.3	50.2	968.5	663.0	21.6	.2	1.000256
6400.0	802.2	15.0	50.6	965.9	662.7	21.6	.3	1.000255
6500.0	799.4	14.8	50.9	963.3	662.4	21.6	.3	1.000254
6600.0	796.5	14.5	51.3	960.7	662.1	290.7	.3	1.000253
6700.0	793.7	14.3	51.6	958.1	661.8	267.6	.8	1.000252
6800.0	790.8	14.0	52.0	955.5	661.5	262.0	1.3	1.000251
6900.0	788.0	13.8	52.3	952.9	661.2	259.5	1.8	1.000250
7000.0	785.2	13.5	52.7	950.4	660.9	258.0	2.3	1.000249
7100.0	782.4	13.3	53.0	947.8	660.6	257.1	2.9	1.000249
7200.0	779.5	13.0	54.0	945.3	660.3	256.5	3.4	1.000248
7300.0	776.7	12.7	54.9	942.8	660.0	256.0	3.9	1.000248
7400.0	773.8	12.4	55.8	940.3	659.6	255.6	4.4	1.000247
7500.0	771.0	12.1	56.7	937.8	659.3	255.4	4.9	1.000246
7600.0	768.2	11.8	57.6	935.3	659.0	255.1	5.4	1.000246
7700.0	765.4	11.6	58.6	932.8	658.6	254.9	6.0	1.000245
7800.0	762.5	11.3	59.5	930.3	658.3	254.8	6.5	1.000245
7900.0	759.8	11.0	60.4	927.9	658.0	254.6	7.0	1.000244

STATION ALTITUDE 4051.37 FEET MSL  
14 OCT. 83  
ASCENSION NO. 133

UPPER AIR DATA  
2870180133  
LC-37

GEODETIC COORDINATES  
32.40175 LAT UEG  
106.31232 LONG WEG

0600 MDT

TABLE 6 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES (IN)	SPEED KNOTS	
8000.0	757.0	10.7	3.6	61.3	925.4	657.6	254.5	254.5	7.5	1.000243
8100.0	754.2	10.4	3.5	62.3	923.0	657.3	254.4	254.4	8.0	1.000243
8200.0	751.4	10.1	3.4	63.2	920.5	657.0	254.3	254.3	8.6	1.000242
8300.0	748.7	9.8	3.4	64.1	918.1	656.6	254.9	254.9	9.4	1.000241
8400.0	745.9	9.5	3.3	65.0	915.7	656.3	255.4	255.4	10.2	1.000241
8500.0	743.2	9.2	3.2	65.9	913.3	655.9	255.8	255.8	11.0	1.000240
8600.0	740.5	8.9	3.1	66.9	910.9	655.6	256.1	256.1	11.8	1.000239
8700.0	737.8	8.7	3.0	67.8	908.5	655.3	256.4	256.4	12.7	1.000239
8800.0	735.1	8.4	3.0	68.7	906.1	654.9	256.7	256.7	13.5	1.000238
8900.0	732.4	8.1	2.9	69.6	903.7	654.6	256.9	256.9	14.3	1.000237
9000.0	729.7	7.8	2.8	70.6	901.3	654.2	257.1	257.1	15.1	1.000237
9100.0	727.0	7.5	2.7	71.5	899.0	653.9	257.3	257.3	16.0	1.000236
9200.0	724.3	7.2	2.6	72.4	896.6	653.6	257.5	257.5	16.8	1.000235
9300.0	721.7	6.9	2.5	73.3	894.3	653.2	257.7	257.7	17.6	1.000235
9400.0	719.1	6.6	2.4	74.2	891.9	652.9	257.8	257.8	18.5	1.000234
9500.0	716.4	6.3	2.3	75.2	889.6	652.5	257.9	257.9	19.3	1.000233
9600.0	713.8	6.0	2.2	76.1	887.3	652.2	258.0	258.0	20.1	1.000232
9700.0	711.2	5.8	2.0	77.0	885.0	651.8	258.2	258.2	20.9	1.000232
9800.0	708.6	5.5	1.9	77.9	882.7	651.5	258.3	258.3	21.8	1.000231
9900.0	706.0	5.2	1.8	78.8	880.4	651.1	258.4	258.4	22.6	1.000230
10000.0	703.4	4.9	1.7	79.8	878.1	650.8	258.4	258.4	23.6	1.000230
10100.0	700.8	4.6	1.6	80.7	875.8	650.5	258.4	258.4	24.7	1.000229
10200.0	698.2	4.3	1.8	83.8	873.5	650.1	258.5	258.5	25.8	1.000229
10300.0	695.6	3.9	2.1	87.8	871.4	649.7	258.5	258.5	26.9	1.000229
10400.0	693.0	3.6	2.1	90.3	869.1	649.3	258.5	258.5	28.0	1.000229
10500.0	690.4	3.4	1.5	87.2	866.4	649.1	258.5	258.5	29.1	1.000227
10600.0	687.8	3.3	.9	84.1	863.8	648.9	258.6	258.6	30.2	1.000225
10700.0	685.3	3.1	.2	81.0	861.1	648.7	258.6	258.6	31.3	1.000223
10800.0	682.7	3.0	-.5	78.0	858.5	648.4	258.6	258.6	32.4	1.000221
10900.0	680.2	2.8	-1.2	74.9	855.9	648.2	258.6	258.6	33.5	1.000219
11000.0	677.6	2.7	-1.6	72.1	853.2	648.0	258.6	258.6	34.3	1.000217
11100.0	675.1	2.6	-5.1	56.9	850.8	647.7	258.5	258.5	34.8	1.000210
11200.0	672.5	3.0	-10.5	36.3	847.1	647.9	258.4	258.4	35.3	1.000202
11300.0	670.0	3.3	-11.0	34.1	843.0	648.3	258.4	258.4	35.9	1.000201
11400.0	667.5	3.4	-11.6	32.4	839.7	648.3	258.3	258.3	36.4	1.000200
11500.0	665.0	3.4	-12.2	30.6	836.5	648.3	258.2	258.2	37.0	1.000198
11600.0	662.5	3.5	-12.9	28.9	833.3	648.4	258.2	258.2	37.5	1.000197
11700.0	660.0	3.5	-13.6	27.1	830.1	648.4	258.1	258.1	37.9	1.000195
11800.0	657.6	3.6	-14.4	25.4	826.9	648.4	258.0	258.0	37.9	1.000194
11900.0	655.1	3.6	-15.2	23.6	823.7	648.4	257.9	257.9	37.9	1.000193



STATION ALTITUDE 4051.37 FEET MSL  
 14 OCT. 83 0600 MDT  
 ASCENSION NO. 133

UPPER AIR DATA  
 2870100133  
 LC-37

TABLE 6 Con't

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
12000.0	652.7	3.5	21.9	820.6	648.5	257.8	37.9	1.000191
12100.0	650.2	3.7	20.2	817.4	648.5	257.8	37.9	1.000190
12200.0	647.8	3.6	20.2	814.6	648.4	257.5	37.9	1.000189
12300.0	645.3	3.5	20.3	811.8	648.3	257.1	37.8	1.000189
12400.0	642.9	3.4	20.5	809.0	648.2	256.5	37.6	1.000188
12500.0	640.5	3.4	20.7	806.2	648.0	255.9	37.4	1.000188
12600.0	638.1	3.3	20.9	803.4	648.0	255.2	37.2	1.000187
12700.0	635.7	3.2	21.0	800.7	647.9	254.6	37.1	1.000186
12800.0	633.3	3.1	21.2	797.9	647.8	253.9	36.9	1.000186
12900.0	630.9	3.0	21.4	795.2	647.7	252.9	36.9	1.000185
13000.0	628.6	2.9	21.6	792.4	647.6	251.8	37.0	1.000185
13100.0	626.2	2.8	21.7	789.7	647.5	250.7	37.1	1.000184
13200.0	623.9	2.7	21.9	787.0	647.4	249.6	37.3	1.000183
13300.0	621.5	2.7	22.1	784.3	647.3	248.6	37.4	1.000183
13400.0	619.2	2.6	22.3	781.6	647.2	247.5	37.5	1.000182
13500.0	616.9	2.5	22.5	778.9	647.1	246.4	37.7	1.000182
13600.0	614.5	2.4	22.6	776.2	647.0	245.8	38.2	1.000181
13700.0	612.2	2.3	22.8	773.5	646.9	245.3	38.9	1.000181
13800.0	609.9	2.2	23.0	770.9	646.8	244.7	39.5	1.000180
13900.0	607.6	2.1	23.2	768.2	646.7	244.3	40.2	1.000179
14000.0	605.4	2.0	23.3	765.6	646.6	243.8	40.9	1.000179
14100.0	603.1	1.9	23.5	762.9	646.5	243.3	41.6	1.000178
14200.0	600.8	1.9	23.7	760.3	646.4	242.9	42.2	1.000178
14300.0	598.6	1.8	23.9	757.7	646.3	242.4	42.9	1.000177
14400.0	596.3	1.6	24.1	755.2	646.1	242.0	43.6	1.000177
14500.0	594.0	1.5	24.4	753.1	645.8	241.6	44.3	1.000176
14600.0	591.8	1.1	24.8	751.1	645.4	241.2	44.9	1.000176
14700.0	589.5	.8	25.1	749.0	645.1	241.2	44.8	1.000175
14800.0	587.3	.5	25.5	747.0	644.7	241.1	44.6	1.000175
14900.0	585.0	.2	25.8	744.9	644.4	241.1	44.5	1.000174
15000.0	582.8	-.1	26.2	742.9	644.1	241.0	44.3	1.000174
15100.0	580.6	-.4	26.6	740.8	643.7	240.9	44.2	1.000173
15200.0	578.4	-.7	26.9	738.6	643.4	240.9	44.0	1.000173
15300.0	576.2	-1.0	27.3	736.6	643.0	240.8	43.9	1.000172
15400.0	574.0	-1.3	27.6	734.6	642.7	240.7	43.7	1.000172
15500.0	571.8	-1.6	28.0	732.8	642.3	240.7	43.6	1.000171
15600.0	569.6	-1.9	28.3	730.8	642.0	240.6	43.4	1.000171
15700.0	567.5	-2.2	28.7	728.8	641.6	240.5	43.3	1.000170
15800.0	565.3	-2.5	29.0	726.8	641.3	240.7	43.1	1.000170
15900.0	563.1	-2.8	29.4	724.8	640.9	241.0	43.0	1.000169

STATION ALTITUDE 4951.37 FEET MSL  
14 OCT. 83  
ASCENSION NO. 133 0600 MDT

UPPER AIR DATA  
2870180133  
LC-37

GEODETLIC COORDINATES  
32.40175 LAT DEG  
106.31232 LONG DEG

TABLE 6 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (IN)	SPEED KNOTS	
16000.0	561.0	-3.1	29.7	722.9	640.6	241.2	42.9	1.000169
16100.0	550.9	-3.3	30.1	720.9	640.2	241.4	42.8	1.000168
16200.0	550.7	-3.6	30.4	718.9	639.9	241.7	42.7	1.000168
16300.0	554.0	-3.9	30.8	717.0	639.5	241.9	42.6	1.000167
16400.0	552.5	-4.2	30.8	715.0	639.2	242.2	42.5	1.000166
16500.0	550.3	-4.4	30.3	712.8	638.9	242.4	42.4	1.000166
16600.0	548.2	-4.7	29.8	710.7	638.6	242.7	42.3	1.000165
16700.0	546.1	-4.9	29.3	708.6	638.3	242.9	42.2	1.000164
16800.0	544.0	-5.1	28.8	706.4	638.1	243.1	42.1	1.000164
16900.0	541.9	-5.4	28.3	704.3	637.8			1.000163
17000.0	539.8	-5.6	27.8	702.2	637.5			1.000162
17100.0	537.7	-5.8	27.3	700.1	637.2			1.000162
17200.0	535.6	-6.1	26.8	698.0	636.9			1.000161
17300.0	533.5	-6.3	26.3	696.0	636.6			1.000160
17400.0	531.4	-6.5	25.8	693.9	636.4			1.000160
17500.0	529.3	-6.8	25.3	691.8	636.1			1.000159
17600.0	527.2	-7.0	24.8	689.8	635.8			1.000158
17700.0	525.1	-7.2	24.3	687.7	635.5			1.000158
17800.0	523.0	-7.4	23.8	685.6	635.2			1.000157
17900.0	521.2	-7.7	23.3	683.6	634.9			1.000157
18000.0	519.2	-7.9	22.8	681.4	634.7			1.000156
18100.0	517.2	-8.0	22.4	679.0	634.6			1.000155
18200.0	515.1	-8.1	22.0	676.6	634.5			1.000155
18300.0	513.1	-8.2	21.6	674.3	634.3			1.000154
18400.0	511.1	-8.3	21.2	671.9	634.2			1.000153
18500.0	509.1	-8.4	20.8	669.6	634.0			1.000153
18600.0	507.1	-8.5	20.4	667.2	633.9			1.000152
18700.0	505.1	-8.6	20.0	664.9	633.8			1.000152
18800.0	503.2	-8.7	19.6	662.6	633.6			1.000151
18900.0	501.2	-8.8	19.2	660.3	633.5			1.000150

STATION ALTITUDE 4051.37 F. ET MSL  
14 OCT. 83  
ASCENSION NO. 133

MANDATORY LEVELS  
2870100133  
LC-37  
TABLE 7

GEODLTIC COORDINATES  
32.40175 LAT DEG  
106.31232 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	F. ET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4701.	19.0	6.8	45.	21.6	.1
800.0	6478.	14.8	4.8	51.	21.6	.3
750.0	8256.	9.9	3.4	64.	250.7	9.0
700.0	10122.	4.5	1.5	81.	250.4	25.0
650.0	12006.	3.7	-17.1	20.	257.0	37.9
600.0	14270.	1.8	-16.7	24.	242.8	42.4
550.0	16406.	-4.5	-19.3	30.	242.4	42.4
500.0	18935.	-8.9	-28.2	19.		

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 488

0630 MDT

# SIGNIFICANT LEVEL DATA

2870020488  
WHITE SANDS

GEODLTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEO-METRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
875.0	3789.0	14.1	6.5	60.0
869.0	4181.1	17.5	7.3	51.0
850.0	4801.6	17.3	6.5	49.0
838.6	5180.6	17.4	6.9	50.0
822.8	5713.9	16.7	6.5	51.0
763.6	7786.5	11.6	3.4	57.0
725.4	9183.9	8.0	1.0	61.0
700.0	10151.7	5.4	-2.9	55.0
696.9	10271.0	5.1	-1.6	62.0
687.7	10627.4	4.4	-4.3	53.0
678.5	10987.6	4.2	-18.0	18.0
669.3	11352.7	4.8	-17.5	18.0
618.9	13428.3	-8	-10.6	29.0
588.9	14728.5	-2.3	-24.0	17.0
573.5	15419.9	-2.4	-20.2	24.0
521.1	17001.2	-6.4	-28.7	15.0
500.0	18057.2	-9.6	-32.0	14.0

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 43  
ASCENSION NO. 438

UPPER AIR DATA  
2870020486  
WHITE SANDS

GEOPLETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	875.0	14.1	60.0	1056.7	661.7	100.0	4.1	1.000260
4000.0	874.7	14.3	59.5	1055.6	661.9	100.3	4.0	1.000260
4100.0	871.5	16.1	54.8	1045.2	664.0	103.9	3.1	1.000278
4200.0	868.4	17.5	50.9	1036.3	665.6	110.1	2.3	1.000277
4300.0	865.3	17.5	50.6	1032.7	665.6	122.6	1.6	1.000275
4400.0	862.2	17.4	50.3	1029.2	665.6	152.8	1.0	1.000274
4500.0	859.2	17.4	50.0	1025.7	665.5	203.7	1.0	1.000273
4600.0	856.1	17.4	49.6	1022.1	665.5	232.6	1.6	1.000272
4700.0	853.1	17.3	49.3	1018.6	665.4	244.5	2.4	1.000271
4800.0	850.0	17.3	49.0	1015.2	665.4	250.5	3.2	1.000270
4900.0	847.0	17.3	49.3	1011.4	665.4	254.0	4.0	1.000269
5000.0	844.0	17.4	49.5	1007.7	665.5	256.3	4.9	1.000269
5100.0	841.0	17.4	49.8	1003.9	665.5	258.0	5.7	1.000268
5200.0	838.0	17.4	50.0	1000.4	665.5	259.2	6.6	1.000268
5300.0	835.0	17.2	50.2	997.2	665.4	260.1	7.5	1.000267
5400.0	832.1	17.1	50.4	994.2	665.2	260.8	8.3	1.000266
5500.0	829.1	17.0	50.6	991.1	665.1	261.4	9.2	1.000265
5600.0	826.2	16.8	50.8	988.0	664.9	261.9	10.0	1.000264
5700.0	823.2	16.7	51.0	984.9	664.8	262.3	10.9	1.000263
5800.0	820.3	16.5	51.2	982.2	664.5	262.7	11.8	1.000262
5900.0	817.3	16.2	51.5	979.5	664.2	263.0	12.6	1.000261
6000.0	814.4	16.0	51.8	976.9	663.9	263.2	13.5	1.000260
6100.0	811.4	15.8	52.1	974.2	663.6	263.5	14.4	1.000259
6200.0	808.5	15.5	52.4	971.6	663.3	263.7	15.2	1.000259
6300.0	805.6	15.3	52.7	968.9	663.0	263.2	15.7	1.000258
6400.0	802.7	15.0	53.0	966.3	662.7	262.2	16.0	1.000257
6500.0	799.8	14.8	53.3	963.7	662.4	261.3	16.3	1.000256
6600.0	796.9	14.5	53.6	961.0	662.2	260.4	16.6	1.000255
6700.0	794.1	14.3	53.9	958.4	661.9	259.6	16.9	1.000254
6800.0	791.2	14.0	54.1	955.8	661.6	258.8	17.2	1.000253
6900.0	788.4	13.8	54.4	953.2	661.3	258.0	17.5	1.000252
7000.0	785.5	13.5	54.7	950.7	661.0	257.3	17.8	1.000251
7100.0	782.7	13.3	55.0	948.1	660.7	256.5	18.1	1.000250
7200.0	779.9	13.0	55.3	945.5	660.4	255.8	18.4	1.000249
7300.0	777.1	12.8	55.6	942.9	660.1	255.1	18.7	1.000248
7400.0	774.3	12.6	55.9	940.4	659.8	254.3	19.1	1.000247
7500.0	771.5	12.3	56.2	937.8	659.5	253.8	19.4	1.000246
7600.0	768.7	12.1	56.5	935.3	659.2	253.2	19.7	1.000245
7700.0	765.0	11.8	56.7	932.8	658.9	252.8	20.1	1.000245
7800.0	763.2	11.6	57.0	930.2	658.6	253.1	20.6	1.000244

GEODLTIC COORDINATES  
32.4043 LAT DEG  
106.37033 LON DEG

UPPER AIR DATA  
2870020486  
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 83  
ASCESSION NO. 488

0630 MDT

TABLE 9 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
7900.0	760.4	11.3	57.3	927.7	658.3	253.3	21.2	1.000243
8000.0	757.7	11.1	57.6	925.2	656.0	253.6	21.7	1.000242
8100.0	754.9	10.8	57.9	922.7	657.7	253.8	22.2	1.000241
8200.0	752.1	10.5	58.2	920.2	657.4	254.0	22.8	1.000240
8300.0	749.4	10.3	58.5	917.7	657.1	254.2	23.3	1.000239
8400.0	746.6	10.0	58.7	915.2	656.8	254.4	23.9	1.000238
8500.0	743.9	9.8	59.0	912.7	656.5	254.6	24.4	1.000237
8600.0	741.2	9.5	59.3	910.2	656.2	254.8	25.0	1.000236
8700.0	738.5	9.3	59.6	907.7	655.9	255.0	25.5	1.000235
8800.0	735.8	9.0	59.9	905.3	655.5	255.1	26.1	1.000234
8900.0	733.1	8.7	60.2	902.8	655.2	255.3	26.6	1.000234
9000.0	730.4	8.5	60.5	900.4	654.9	255.4	27.2	1.000233
9100.0	727.8	8.2	60.7	897.9	654.6	255.6	27.7	1.000232
9200.0	725.1	8.0	60.9	895.5	654.3	255.7	28.2	1.000231
9300.0	722.4	7.7	60.3	893.1	654.0	255.9	28.8	1.000229
9400.0	719.7	7.4	59.7	890.7	653.6	256.0	29.3	1.000228
9500.0	717.1	7.2	59.1	888.4	653.3	256.2	29.7	1.000227
9600.0	714.4	6.9	58.4	886.0	652.9	256.4	30.1	1.000226
9700.0	711.8	6.6	57.8	883.7	652.6	256.6	30.5	1.000224
9800.0	709.2	6.3	57.2	881.3	652.3	256.7	30.9	1.000223
9900.0	706.6	6.1	56.6	879.0	651.9	256.9	31.2	1.000222
10000.0	703.9	5.8	55.9	876.6	651.6	257.1	31.6	1.000220
10100.0	701.3	5.5	55.3	874.3	651.2	257.3	32.0	1.000219
10200.0	698.7	5.3	54.7	871.8	651.0	257.4	32.4	1.000219
10300.0	696.1	5.0	54.1	869.2	650.7	257.6	32.7	1.000220
10400.0	693.6	4.8	53.5	866.7	650.5	257.8	33.1	1.000218
10500.0	691.0	4.7	53.0	864.2	650.2	257.9	33.5	1.000216
10600.0	688.4	4.5	52.4	861.7	649.9	258.1	33.9	1.000214
10700.0	685.8	4.4	51.9	859.1	649.7	258.2	34.2	1.000210
10800.0	683.3	4.3	51.4	856.5	649.5	258.4	34.6	1.000206
10900.0	680.7	4.2	50.9	853.8	649.2	258.5	35.0	1.000201
11000.0	678.2	4.2	50.4	851.1	649.1	258.5	35.2	1.000197
11100.0	675.7	4.4	50.0	848.4	649.3	258.5	35.3	1.000196
11200.0	673.1	4.5	49.6	845.7	649.5	258.2	35.5	1.000195
11300.0	670.6	4.7	49.2	843.0	649.6	258.1	35.6	1.000195
11400.0	668.1	4.7	48.8	840.3	649.3	257.9	35.7	1.000194
11500.0	665.6	4.4	48.4	837.6	649.3	257.8	35.8	1.000194
11600.0	663.1	4.1	48.0	834.9	649.0	257.7	35.9	1.000193
11700.0	660.6	3.9	47.6	832.2	648.7	257.6	36.0	1.000193
11800.0	658.1	3.6	47.2	829.5	648.4	257.4	36.2	1.000192

STATION ALTITUDE 3989.00 F ET MSL  
14 OCT. 83  
ASCENSION NO. 488 0630 MDT

UPPER AIR DATA  
2670020488  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT LEG  
106.37033 LON DEG

TABLE 9 Con't

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
11900.0	653.6	3.3	20.9	825.3	648.1	257.3	36.3	1.000192
12000.0	653.2	3.1	21.4	823.0	547.8	257.2	36.4	1.000191
12100.0	650.7	2.8	22.0	820.7	647.4	257.0	36.5	1.000191
12200.0	648.2	2.5	22.5	818.4	647.1	256.9	36.6	1.000191
12300.0	645.8	2.2	23.0	816.1	646.8	256.8	36.8	1.000190
12400.0	643.4	2.0	23.6	813.9	646.5	256.7	36.9	1.000190
12500.0	641.0	1.7	24.1	811.6	646.2	256.7	37.0	1.000189
12600.0	638.5	1.4	24.6	809.3	645.9	256.6	37.1	1.000189
12700.0	636.1	1.2	25.1	807.1	645.6	256.5	37.1	1.000188
12800.0	633.7	.9	25.7	804.8	645.2	256.5	37.2	1.000188
12900.0	631.4	.6	26.2	802.6	644.9	256.4	37.3	1.000187
13000.0	629.0	.4	26.7	800.3	644.6	256.4	37.4	1.000187
13100.0	626.6	.1	27.3	798.1	644.3	256.3	37.5	1.000186
13200.0	624.3	-.2	27.8	795.9	644.0	256.3	37.6	1.000186
13300.0	621.9	-.5	28.3	793.7	643.7	256.2	37.7	1.000185
13400.0	619.6	-.7	28.9	791.5	643.3	256.2	37.8	1.000185
13500.0	617.2	-.9	29.3	788.9	643.1	256.1	37.9	1.000184
13600.0	614.9	-1.0	27.4	786.3	643.0	255.4	38.4	1.000183
13700.0	612.5	-1.1	26.5	783.6	642.8	254.6	38.9	1.000182
13800.0	610.2	-1.2	25.6	781.0	642.7	253.9	39.4	1.000181
13900.0	607.8	-1.3	24.6	778.4	642.6	253.2	39.9	1.000180
14000.0	605.5	-1.5	23.7	775.8	642.4	252.5	40.5	1.000179
14100.0	603.2	-1.6	22.8	773.2	642.3	251.8	41.0	1.000179
14200.0	600.9	-1.7	21.9	770.6	642.1	251.1	41.6	1.000178
14300.0	598.6	-1.8	21.0	768.0	642.0	250.5	42.1	1.000177
14400.0	596.3	-1.9	20.0	765.4	641.8	249.8	42.5	1.000176
14500.0	594.1	-2.0	19.1	762.9	641.7	248.6	42.8	1.000175
14600.0	591.8	-2.2	18.2	760.3	641.5	247.9	43.1	1.000174
14700.0	589.5	-2.3	17.3	757.7	641.4	246.9	43.3	1.000173
14800.0	587.3	-2.3	17.7	755.0	641.3	246.0	43.6	1.000173
14900.0	585.0	-2.3	18.7	752.1	641.3	245.1	43.9	1.000173
15000.0	582.8	-2.3	19.7	749.2	641.3	244.2	44.2	1.000172
15100.0	580.6	-2.4	20.8	746.4	641.3	243.3	44.6	1.000172
15200.0	578.4	-2.4	21.8	743.5	641.3	242.5	44.9	1.000171
15300.0	576.1	-2.4	22.8	740.7	641.3	242.0	44.7	1.000171
15400.0	573.9	-2.4	23.8	737.9	641.3	241.4	44.5	1.000171
15500.0	571.7	-2.5	23.7	735.4	641.1	240.9	44.3	1.000170
15600.0	569.5	-2.7	23.3	733.0	640.9	240.4	44.2	1.000169
15700.0	567.3	-2.9	23.0	730.6	640.7	239.8	44.0	1.000169
15800.0	565.1	-3.0	22.6	728.3	640.5	239.3	43.9	1.000168

UPPER AIR DATA  
2870020460  
WHITE SANDS  
TABLE 9 Con't

STATION ALTITUDE 3489.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 486 0630 MDT

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
15900.0	565.0	-3.2	22.3	725.9	640.3	239.0	43.9	1.000167
16000.0	560.8	-3.3	21.9	723.6	640.1	239.8	43.9	1.000167
16100.0	556.6	-3.5	21.5	721.2	640.0	240.1	44.0	1.000166
16200.0	552.5	-3.7	21.2	718.9	639.8	240.3	44.0	1.000165
16300.0	554.3	-3.8	20.8	716.5	639.6	240.6	44.1	1.000165
16400.0	552.2	-4.0	20.4	714.2	639.4	240.9	44.1	1.000164
16500.0	550.1	-4.1	20.1	711.9	639.2	241.7	43.9	1.000163
16600.0	548.0	-4.3	19.7	709.6	639.0	242.6	43.7	1.000163
16700.0	545.8	-4.5	19.4	707.3	638.8	243.4	43.5	1.000162
16800.0	543.7	-4.6	19.0	705.0	638.6	244.3	43.3	1.000161
16900.0	541.6	-4.8	18.6	702.7	638.4	245.2	43.2	1.000161
17000.0	539.6	-4.9	18.3	700.4	638.2			1.000160
17100.0	537.5	-5.1	17.9	698.2	638.0			1.000159
17200.0	535.4	-5.3	17.5	695.9	637.8			1.000159
17300.0	533.3	-5.4	17.2	693.7	637.6			1.000158
17400.0	531.3	-5.6	16.8	691.4	637.4			1.000158
17500.0	529.2	-5.8	16.5	689.2	637.2			1.000157
17600.0	527.2	-5.9	16.1	686.9	637.0			1.000156
17700.0	525.2	-6.1	15.7	684.7	636.8			1.000155
17800.0	523.1	-6.2	15.4	682.5	636.6			1.000155
17900.0	521.1	-6.4	15.0	680.3	636.4			1.000154
18000.0	519.1	-6.7	14.9	678.4	636.0			1.000154
18100.0	517.1	-7.0	14.8	676.5	635.7			1.000153
18200.0	515.0	-7.3	14.7	674.7	635.3			1.000153
18300.0	513.0	-7.6	14.6	672.8	635.0			1.000152
18400.0	511.0	-7.9	14.5	670.9	634.6			1.000152
18500.0	509.0	-8.2	14.4	669.1	634.2			1.000151
18600.0	507.0	-8.5	14.3	667.2	633.9			1.000151
18700.0	505.1	-8.8	14.2	665.4	633.5			1.000150
18800.0	503.1	-9.1	14.1	663.6	633.1			1.000150
18900.0	501.1	-9.4	14.1	661.7	632.8			1.000150



STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 488 0630 MDT

NAUTICAL LEVELS  
2870020488  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL MILLIBARS	FLEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
857.0	4798.	17.3	6.5	49.	250.5	3.2
800.0	6493.	14.8	5.4	53.	261.4	16.3
750.0	8272.	10.3	2.5	58.	254.2	23.2
700.0	10142.	5.4	-2.9	55.	257.4	32.2
650.0	12120.	2.7	-16.8	22.	257.0	36.6
600.0	14224.	-1.7	-20.9	22.	250.9	41.7
550.0	16487.	-4.1	-23.7	20.	241.7	43.9
500.0	18931.	-9.6	-32.0	14.		

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 83  
ASCENSION 110. 489

SIGNIFICANT LEVEL DATA  
2870020489  
WHITE SANDS  
TABLE 11

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT
875.4	5989.0	12.0	69.0
860.6	4174.5	18.9	64.0
861.8	4029.7	20.2	56.0
850.0	4020.3	19.4	51.0
833.5	5372.1	16.7	53.0
809.7	6183.2	16.4	54.0
781.1	7184.7	13.6	59.0
762.3	7057.6	11.8	57.0
707.6	9088.0	6.5	71.0
700.0	10179.2	5.6	67.0
695.3	10360.3	4.8	68.0
676.5	11093.6	3.4	48.0
672.1	11267.7	3.6	21.0
661.1	11708.0	4.1	17.0
636.8	12705.4	2.5	20.0
585.4	14226.0	-1.1	19.0
560.4	16063.4	-4.2	18.0
541.6	16048.0	-4.0	19.0
528.0	17605.6	-5.6	16.0
516.1	19192.6	-6.2	15.0
500.0	19004.8	-8.1	12.0
466.2	20780.7	-11.6	15.0
428.6	22877.2	-17.3	17.0
400.0	24565.6	-21.7	18.0
385.8	25437.7	-24.0	20.0
372.2	26297.7	-25.1	18.0
338.6	28531.6	-31.4	20.0
300.0	31307.7	-39.2	22.0
270.4	33625.6	-44.4	
250.0	35340.3	-48.7	
200.0	40073.1	-58.0	
183.6	41035.4	-62.0	
172.1	43156.9	-60.4	
165.6	43050.7	-58.8	
150.0	45008.0	-61.0	
141.3	4714.6	-60.2	
125.3	49671.4	-62.8	
113.7	51644.4	-63.1	
100.9	52331.5	-64.8	
102.9	53662.6	-62.9	

STATION ALTITUDE 3949.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 489 0800 MDT

SIGNIFICANT LEVEL DATA

2870020489  
WHITE SANDS

TABLE 11 Con't

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
100.0 54243.0	-63.3		
85.0 57337.0	-61.8		
76.3 59747.9	-63.7		
73.3 60568.9	-59.3		
70.0 61522.7	-58.8		
63.2 63661.7	-54.7		
60.6 64544.8	-57.0		
55.7 66312.5	-55.9		
50.0 68580.6	-56.2		
44.5 71030.5	-55.7		
42.8 71945.5	-58.3		
38.3 74176.9	-54.5		
36.5 75193.3	-55.7		
30.0 79351.5	-52.8		
28.0 80831.5	-50.7		
23.9 84251.5	-49.8		
20.7 87393.1	-45.6		
20.0 88151.9	-45.7		
16.8 91092.7	-46.3		

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 43 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS  
TABLE 12

GEOIDAL COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

GEOMETRIC ALTITUDE FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	875.4	12.0	69.0	1065.0	659.2	110.0	4.1	1.000262
4000.0	875.1	12.4	68.7	1062.9	659.7	110.5	4.0	1.000263
4100.0	871.4	10.1	66.0	1044.5	664.4	115.9	3.6	1.000248
4200.0	868.8	19.0	63.2	1029.6	667.9	122.6	3.2	1.000291
4300.0	865.8	19.5	60.1	1024.3	668.5	131.0	2.9	1.000269
4400.0	862.7	20.0	56.9	1019.0	669.0	141.3	2.6	1.000206
4500.0	859.7	20.1	55.1	1015.0	669.0	153.5	2.5	1.000263
4600.0	855.8	19.9	53.8	1012.9	668.7	160.2	2.5	1.000281
4700.0	853.6	19.6	52.5	1010.2	668.4	173.8	2.5	1.000278
4800.0	850.6	19.4	51.3	1007.5	668.1	190.0	2.7	1.000276
4900.0	847.0	19.0	51.3	1005.0	667.6	199.4	3.0	1.000274
5000.0	844.6	18.5	51.7	1003.8	667.0	207.0	3.4	1.000273
5100.0	841.6	18.0	52.0	1002.0	666.4	213.0	3.8	1.000271
5200.0	838.6	17.5	52.4	1000.2	665.8	217.9	4.2	1.000270
5300.0	835.6	17.1	52.7	998.5	665.2	221.8	4.7	1.000269
5400.0	832.7	16.7	53.0	996.2	664.8	225.0	5.2	1.000268
5500.0	829.7	16.7	53.2	992.8	664.7	227.0	5.7	1.000267
5600.0	826.7	16.6	53.3	989.4	664.7	229.8	6.2	1.000266
5700.0	823.8	16.6	53.4	985.9	664.7	231.7	6.7	1.000265
5800.0	820.9	16.5	53.5	982.5	664.6	233.5	7.2	1.000264
5900.0	817.9	16.5	53.7	979.1	664.6	234.7	7.7	1.000264
6000.0	815.0	16.4	53.8	975.8	664.5	235.9	8.3	1.000263
6100.0	812.1	16.4	53.9	972.4	664.5	237.6	8.9	1.000262
6200.0	809.2	16.4	54.1	969.2	664.4	239.9	9.7	1.000262
6300.0	806.3	16.1	54.6	966.0	664.1	241.9	10.6	1.000261
6400.0	803.4	15.8	55.1	964.1	663.8	243.5	11.4	1.000260
6500.0	800.5	15.5	55.6	961.0	663.4	244.9	12.3	1.000259
6600.0	797.7	15.2	56.1	959.1	663.1	246.2	13.2	1.000258
6700.0	794.8	15.0	56.6	956.7	662.8	247.2	14.0	1.000257
6800.0	792.0	14.7	57.1	954.2	662.4	248.2	14.9	1.000256
6900.0	789.1	14.4	57.6	951.7	662.1	249.1	15.8	1.000255
7000.0	786.3	14.1	58.1	949.2	661.8	249.6	16.7	1.000255
7100.0	783.5	13.8	58.6	946.8	661.5	250.5	17.5	1.000254
7200.0	780.7	13.6	59.0	944.3	661.1	250.9	17.9	1.000253
7300.0	777.8	13.3	59.7	941.9	660.8	251.4	18.3	1.000251
7400.0	775.0	13.0	59.4	939.4	660.5	251.8	18.8	1.000250
7500.0	772.2	12.8	59.1	937.0	660.1	252.2	19.2	1.000249
7600.0	769.4	12.5	57.8	934.0	659.8	252.6	19.7	1.000247
7700.0	766.7	12.2	57.5	932.1	659.4	253.0	20.1	1.000246
7800.0	763.9	12.0	57.2	929.7	659.1	253.5	20.5	1.000244

STATION ALTITUDE 3949.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 489 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CELSIUS	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
7900.0	761.1	11.7	3.5	57.3	927.2	650.8	253.7	21.0	1.000243
8000.0	753.3	11.4	3.5	58.0	924.7	658.5	254.0	21.4	1.000243
8100.0	753.6	11.2	3.4	58.7	922.1	658.2	254.3	21.9	1.000242
8200.0	752.8	10.9	3.3	59.4	919.6	657.9	254.5	22.2	1.000241
8300.0	750.0	10.6	3.2	60.1	917.1	657.6	254.6	22.2	1.000241
8400.0	747.3	10.4	3.1	60.7	914.6	657.3	254.6	22.3	1.000240
8500.0	744.6	10.1	3.1	61.4	912.1	657.0	254.7	22.3	1.000239
8600.0	741.8	9.9	3.0	62.1	909.6	656.7	254.7	22.3	1.000238
8700.0	739.1	9.6	2.9	62.8	907.1	656.3	254.7	22.3	1.000238
8800.0	736.4	9.3	2.8	63.5	904.6	656.0	254.8	22.4	1.000237
8900.0	733.7	9.1	2.7	64.2	902.2	655.7	254.8	22.4	1.000236
9000.0	731.0	8.8	2.6	64.9	899.7	655.4	254.9	22.4	1.000236
9100.0	728.3	8.6	2.5	65.6	897.3	655.1	254.9	22.5	1.000235
9200.0	725.7	8.3	2.4	66.3	894.8	654.8	254.9	22.5	1.000234
9300.0	723.0	8.0	2.3	66.9	892.4	654.5	255.0	22.5	1.000233
9400.0	720.4	7.8	2.2	67.6	890.0	654.2	255.2	23.0	1.000233
9500.0	717.7	7.5	2.1	68.3	887.5	653.9	255.5	23.7	1.000232
9600.0	715.1	7.3	2.0	69.0	885.1	653.6	255.7	24.3	1.000231
9700.0	712.5	7.0	1.8	69.7	882.7	653.3	256.0	25.0	1.000230
9800.0	709.9	6.7	1.7	70.4	880.3	653.0	256.2	25.6	1.000230
9900.0	707.3	6.5	1.6	70.8	878.0	652.6	256.4	26.3	1.000229
10000.0	704.7	6.2	1.5	69.5	875.8	652.2	256.7	26.9	1.000227
10100.0	702.1	5.8	.4	68.1	873.6	651.8	256.9	27.6	1.000225
10200.0	699.5	5.5	-1	67.1	871.6	651.4	257.1	28.2	1.000224
10300.0	696.9	5.1	-4	67.7	869.8	650.9	257.2	28.9	1.000223
10400.0	694.3	4.7	-9	66.9	867.7	650.4	257.4	29.5	1.000221
10500.0	691.7	4.3	-16	64.2	865.2	650.2	257.6	30.2	1.000219
10600.0	689.1	4.3	-24	61.5	862.7	649.9	257.7	30.9	1.000217
10700.0	686.5	4.2	-32	59.7	860.2	649.6	258.0	31.5	1.000215
10800.0	684.0	4.0	-40	56.0	857.7	649.3	258.2	32.1	1.000214
10900.0	681.4	3.8	-48	53.3	855.2	649.1	258.5	32.8	1.000212
11000.0	678.9	3.6	-57	50.6	852.7	648.8	258.8	33.4	1.000210
11100.0	676.3	3.4	-65	47.0	850.2	648.5	259.0	34.1	1.000208
11200.0	673.8	3.3	-73	43.5	847.2	648.5	259.3	34.7	1.000201
11300.0	671.3	3.6	-81	40.7	844.1	648.4	259.5	35.3	1.000196
11400.0	668.8	3.8	-89	38.0	840.6	648.6	259.8	36.0	1.000195
11500.0	666.3	3.9	-97	35.3	837.2	648.7	260.0	36.6	1.000194
11600.0	663.8	4.0	-105	32.6	833.7	648.8	260.2	37.3	1.000193
11700.0	661.3	4.1	-113	30.0	830.3	648.9	260.4	37.9	1.000192
11800.0	658.8	4.0	-121	27.3	827.0	648.8	260.6	38.6	1.000191

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 83 0800 MDT  
ASCENSION NO. 439

UPPER AIR DATA  
2870020489  
WHITE SANDS

TABLE 12 Con't

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
11900.0	650.4	3.8	17.6	825.0	648.6	260.2	38.8	1.000191
12000.0	653.9	3.6	17.9	822.3	648.4	259.7	38.9	1.000190
12100.0	651.4	3.5	18.2	819.7	648.2	259.3	39.1	1.000190
12200.0	649.0	3.3	18.5	817.1	648.0	258.9	39.2	1.000189
12300.0	646.6	3.2	18.8	814.5	647.8	258.4	39.4	1.000189
12400.0	644.1	3.0	19.1	811.9	647.7	258.0	39.6	1.000188
12500.0	641.7	2.8	19.4	809.4	647.5	257.6	39.7	1.000188
12600.0	639.3	2.7	19.7	806.8	647.3	257.2	39.9	1.000187
12700.0	636.9	2.5	20.0	804.2	647.1	256.8	40.1	1.000186
12800.0	634.5	2.3	20.3	801.7	646.9	256.3	40.2	1.000186
12900.0	632.1	2.2	19.9	799.1	646.7	255.9	40.4	1.000185
13000.0	629.7	2.0	19.9	796.6	646.5	255.3	40.6	1.000184
13100.0	627.3	1.9	19.8	794.0	646.3	254.8	40.9	1.000184
13200.0	625.0	1.7	19.8	791.5	646.1	253.9	41.1	1.000183
13300.0	622.6	1.5	19.7	789.0	645.9	253.3	41.4	1.000183
13400.0	620.3	1.4	19.7	786.5	645.7	252.6	41.6	1.000182
13500.0	617.9	1.2	19.6	784.0	645.5	251.9	41.9	1.000181
13600.0	615.6	1.0	19.6	781.5	645.4	251.3	42.2	1.000181
13700.0	613.2	.9	19.6	779.0	645.2	250.6	42.5	1.000180
13800.0	610.9	.7	19.5	776.5	645.0	250.0	42.7	1.000179
13900.0	608.6	.6	19.5	774.0	644.8	249.4	43.0	1.000179
14000.0	606.3	.4	19.4	771.5	644.6	248.8	43.3	1.000178
14100.0	604.0	.2	19.4	769.1	644.4	248.2	43.6	1.000177
14200.0	601.7	.1	19.3	766.6	644.2	247.7	43.7	1.000177
14300.0	599.5	-.1	19.3	764.2	644.0	247.2	43.9	1.000176
14400.0	597.2	-.2	19.2	761.8	643.8	246.7	44.0	1.000176
14500.0	594.9	-.4	19.2	759.3	643.6	246.2	44.2	1.000175
14600.0	592.7	-.6	19.1	756.9	643.4	245.7	44.3	1.000174
14700.0	590.4	-.7	19.1	754.5	643.2	245.2	44.5	1.000174
14800.0	588.2	-.9	19.1	752.1	643.0	244.7	44.7	1.000173
14900.0	586.0	-1.1	19.0	749.7	642.8	244.2	44.8	1.000173
15000.0	583.7	-1.3	18.9	747.5	642.5	243.7	45.0	1.000172
15100.0	581.5	-1.6	18.8	745.4	642.2	243.3	45.1	1.000171
15200.0	579.3	-1.8	18.8	743.3	641.9	243.5	45.0	1.000171
15300.0	577.1	-2.1	18.7	741.2	641.6	243.3	45.0	1.000170
15400.0	574.8	-2.4	18.6	739.2	641.2	243.3	44.9	1.000170
15500.0	572.6	-2.7	18.5	737.1	640.9	243.6	44.9	1.000169
15600.0	570.3	-2.9	18.4	735.0	640.6	243.6	44.8	1.000168
15700.0	568.1	-3.2	18.3	732.9	640.3	243.6	44.8	1.000168
15800.0	566.1	-3.5	18.2	730.9	639.9	243.6	44.8	1.000167

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

UPPER AIR DATA  
2870020489  
WHITE SANDS

TABLE 12 Con't

STATION ALTITUDE 3900.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 489 0800 MDT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
15900.0	563.9	-3.8	-24.5	18.1	728.8	639.6	243.7	44.7	1.000167
16000.0	561.8	-4.0	-24.7	18.1	726.6	639.3	244.2	44.6	1.000166
16100.0	559.6	-4.2	-25.0	17.9	724.4	639.1	244.8	44.5	1.000166
16200.0	557.5	-4.2	-25.1	17.7	721.6	639.1	245.5	44.3	1.000165
16300.0	555.3	-4.1	-25.2	17.5	718.8	639.1	246.1	44.2	1.000164
16400.0	553.2	-4.1	-25.3	17.2	715.9	639.2	246.8	44.1	1.000164
16500.0	551.0	-4.1	-25.5	17.0	713.1	639.2	247.4	44.0	1.000163
16600.0	548.9	-4.1	-25.6	16.8	710.3	639.2	248.1	43.9	1.000162
16700.0	546.8	-4.1	-25.7	16.6	707.5	639.2	248.7	43.8	1.000162
16800.0	544.7	-4.0	-25.8	16.3	704.7	639.3	249.4	43.7	1.000161
16900.0	542.6	-4.0	-26.0	16.1	702.0	639.3	249.8	43.6	1.000160
17000.0	540.5	-4.1	-26.1	16.0	699.6	639.1	250.3	43.4	1.000160
17100.0	538.4	-4.1	-26.3	16.0	697.5	638.9	250.7	43.2	1.000159
17200.0	536.3	-4.6	-26.5	16.0	695.5	638.6	251.2	43.0	1.000159
17300.0	534.3	-4.9	-26.7	16.0	693.4	638.3	251.6	42.9	1.000158
17400.0	532.2	-5.1	-26.9	16.0	691.4	638.0	252.1	42.7	1.000158
17500.0	530.2	-5.3	-27.1	16.0	689.3	637.7	252.6	42.6	1.000157
17600.0	528.1	-5.6	-27.3	16.0	687.3	637.4	253.0	42.4	1.000157
17700.0	526.1	-5.7	-27.5	15.8	684.9	637.3	253.3	42.4	1.000156
17800.0	524.0	-5.8	-27.7	15.7	682.5	637.1	253.3	42.5	1.000155
17900.0	522.0	-5.9	-27.9	15.5	680.1	637.0	253.3	42.6	1.000155
18000.0	520.0	-6.0	-28.1	15.3	677.6	636.9	253.2	42.7	1.000154
18100.0	518.0	-6.1	-28.3	15.2	675.4	636.8	253.2	42.9	1.000154
18200.0	516.0	-6.2	-28.6	15.0	673.1	636.6	253.1	43.0	1.000153
18300.0	513.9	-6.5	-29.0	14.6	671.0	636.3	253.1	43.1	1.000152
18400.0	511.9	-6.7	-29.5	14.2	669.0	636.1	253.0	43.3	1.000152
18500.0	509.9	-6.9	-30.0	13.9	667.0	635.8	253.0	43.4	1.000151
18600.0	508.0	-7.2	-30.4	13.5	665.0	635.5	252.9	43.5	1.000151
18700.0	506.0	-7.4	-30.9	13.1	663.0	635.2	252.9	43.6	1.000150
18800.0	504.0	-7.6	-31.4	12.8	661.0	634.9	252.9	43.7	1.000150
18900.0	502.0	-7.9	-31.9	12.4	659.0	634.6	252.8	43.7	1.000149
19000.0	500.1	-8.1	-32.4	12.0	657.1	634.4	252.8	43.8	1.000149
19100.0	498.1	-8.3	-32.4	12.3	655.0	634.1	252.7	43.9	1.000148
19200.0	496.2	-8.5	-32.4	12.5	652.9	633.9	252.7	44.0	1.000147
19300.0	494.2	-8.7	-32.4	12.7	650.8	633.6	252.7	44.1	1.000147
19400.0	492.3	-8.9	-32.5	12.8	648.7	633.4	252.6	44.1	1.000146
19500.0	490.3	-9.1	-32.5	13.0	646.6	633.2	252.6	44.2	1.000146
19600.0	488.4	-9.3	-32.5	13.2	644.6	632.9	252.5	44.2	1.000145
19700.0	486.5	-9.5	-32.5	13.3	642.5	632.7	252.5	44.3	1.000145
19800.0	484.6	-9.7	-32.6	13.3	640.5	632.5	252.5		

STATION ALTITUDE 3909.00 FEET MSL  
14 OCT. 63  
ASCENSION NO. 489 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODEILIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (HH) SPEED KNOTS	INDEX OF REFRACTION
19900.0	482.7	-9.9	13.5	630.4	632.2	252.4	1.000144
20000.0	480.8	-10.1	13.7	636.4	632.0	252.4	1.000144
20100.0	478.9	-10.3	13.9	634.4	631.8	252.6	1.000143
20200.0	477.0	-10.5	14.0	632.4	631.5	252.7	1.000143
20300.0	475.1	-10.7	14.2	630.3	631.3	252.6	1.000143
20400.0	473.2	-10.8	14.4	628.3	631.0	252.9	1.000142
20500.0	471.4	-11.0	14.5	626.3	630.8	253.1	1.000142
20600.0	469.5	-11.2	14.7	624.3	630.5	253.2	1.000141
20700.0	467.7	-11.4	14.9	622.4	630.3	253.3	1.000141
20800.0	465.8	-11.7	15.0	620.4	630.1	253.4	1.000140
20900.0	464.0	-11.9	15.1	618.6	629.7	253.5	1.000140
21000.0	462.1	-12.2	15.2	616.7	629.4	253.6	1.000139
21100.0	460.3	-12.5	15.3	614.9	629.1	253.7	1.000139
21200.0	458.4	-12.7	15.4	613.1	628.8	253.8	1.000139
21300.0	456.6	-13.0	15.5	611.3	628.4	253.9	1.000138
21400.0	454.8	-13.3	15.6	609.5	628.1	254.0	1.000138
21500.0	452.9	-13.6	15.7	607.7	627.8	254.0	1.000137
21600.0	451.1	-13.8	15.8	605.9	627.4	254.1	1.000137
21700.0	449.3	-14.1	15.9	604.1	627.1	254.1	1.000136
21800.0	447.5	-14.4	16.0	602.3	626.8	254.1	1.000136
21900.0	445.7	-14.6	16.1	600.5	626.5	254.2	1.000136
22000.0	443.9	-14.9	16.2	598.7	626.1	254.2	1.000135
22100.0	442.2	-15.2	16.3	597.0	625.8	254.2	1.000135
22200.0	440.4	-15.5	16.4	595.2	625.5	254.2	1.000134
22300.0	438.6	-15.7	16.4	593.5	625.1	254.3	1.000134
22400.0	436.9	-16.0	16.5	591.7	624.8	254.3	1.000133
22500.0	435.1	-16.3	16.6	590.0	624.5	254.3	1.000133
22600.0	433.4	-16.5	16.7	588.2	624.1	254.3	1.000133
22700.0	431.7	-16.8	16.8	586.5	623.8	254.4	1.000132
22800.0	429.9	-17.1	16.9	584.8	623.5	254.4	1.000132
22900.0	428.2	-17.4	17.0	583.0	623.1	254.6	1.000131
23000.0	426.5	-17.6	17.1	581.3	622.8	254.9	1.000131
23100.0	424.7	-17.9	17.1	579.5	622.5	255.1	1.000131
23200.0	423.0	-18.1	17.2	577.7	622.2	255.3	1.000130
23300.0	421.3	-18.4	17.3	575.9	621.9	255.4	1.000130
23400.0	419.5	-18.7	17.3	574.2	621.5	255.6	1.000129
23500.0	417.8	-18.9	17.4	572.4	621.2	255.8	1.000129
23600.0	416.1	-19.2	17.4	570.7	620.9	256.0	1.000128
23700.0	414.4	-19.4	17.5	568.9	620.6	256.1	1.000128
23800.0	412.7	-19.7	17.5	567.2	620.3	256.4	1.000128



STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 43  
ASCENSION NO. 409 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBAR'S	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23900.0	411.0	-20.0	17.6	565.4	620.0	256.6	50.1	1.000127
24000.0	409.4	-20.2	17.7	563.7	619.0	257.2	50.3	1.000127
24100.0	407.7	-20.5	17.7	562.0	619.3	257.6	50.4	1.000126
24200.0	406.0	-20.7	17.8	560.3	619.0	258.0	50.6	1.000126
24300.0	404.4	-21.0	17.8	558.6	618.7	258.4	50.8	1.000126
24400.0	402.7	-21.3	17.9	556.9	618.3	258.9	51.0	1.000125
24500.0	401.1	-21.5	18.0	555.2	618.0	259.3	51.1	1.000125
24600.0	399.4	-21.8	18.1	553.5	617.7	259.7	51.3	1.000124
24700.0	397.8	-22.1	18.3	551.8	617.4	260.1	51.5	1.000124
24800.0	396.1	-22.3	18.5	550.1	617.1	260.5	51.7	1.000124
24900.0	394.5	-22.6	18.8	548.4	616.7	260.8	51.9	1.000123
25000.0	392.9	-22.8	19.0	546.7	616.4	261.2	51.4	1.000123
25100.0	391.2	-23.1	19.2	545.0	616.1	261.5	50.9	1.000122
25200.0	389.6	-23.4	19.5	543.3	615.8	261.8	50.4	1.000122
25300.0	388.0	-23.6	19.7	541.6	615.4	262.1	49.9	1.000122
25400.0	386.4	-23.9	19.9	540.0	615.1	262.4	49.4	1.000121
25500.0	384.8	-24.1	19.9	538.1	614.9	262.8	48.9	1.000121
25600.0	383.2	-24.2	19.6	536.1	614.7	263.1	48.4	1.000120
25700.0	381.6	-24.3	19.4	534.2	614.6	263.4	47.9	1.000120
25800.0	380.0	-24.5	19.2	532.2	614.4	263.8	47.4	1.000120
25900.0	378.4	-24.6	18.9	530.3	614.2	264.2	46.9	1.000119
26000.0	376.9	-24.7	18.7	528.4	614.1	264.5	46.4	1.000119
26100.0	375.3	-24.8	18.5	526.4	613.9	264.8	46.1	1.000118
26200.0	373.7	-25.0	18.2	524.5	613.8	264.8	46.1	1.000118
26300.0	372.2	-25.1	18.0	522.6	613.6	264.9	46.1	1.000117
26400.0	370.6	-25.4	18.1	521.0	613.3	265.0	46.0	1.000117
26500.0	369.0	-25.7	18.2	519.4	612.9	265.1	46.0	1.000117
26600.0	367.5	-26.0	18.3	517.8	612.6	265.1	46.0	1.000116
26700.0	365.9	-26.2	18.4	516.2	612.2	265.2	45.9	1.000116
26800.0	364.4	-26.5	18.4	514.6	611.9	265.3	45.9	1.000115
26900.0	362.8	-26.8	18.5	513.0	611.5	265.3	45.9	1.000115
27000.0	361.3	-27.1	18.6	511.4	611.2	265.4	45.8	1.000115
27100.0	359.8	-27.4	18.7	509.8	610.8	265.5	45.8	1.000114
27200.0	358.2	-27.6	18.8	508.3	610.5	265.6	45.7	1.000114
27300.0	356.7	-27.9	18.9	506.7	610.1	265.6	46.3	1.000114
27400.0	355.2	-28.2	19.0	505.2	609.7	265.7	46.8	1.000113
27500.0	353.7	-28.5	19.1	503.6	609.4	265.8	47.3	1.000113
27600.0	352.2	-28.8	19.2	502.0	609.0	265.8	47.9	1.000113
27700.0	350.7	-29.1	19.3	500.5	608.7	265.9	48.4	1.000112
27800.0	349.3	-29.3	19.3	499.0	608.3	265.9	49.0	1.000112

UPPER AIR DATA  
2870020489  
WHITE SANDS  
TABLE 12 Con't

STATION ALTITUDE 3989.00 F LT MSL  
14 OCT. 83 0800 MDT  
ASCENSION NO. 489

GEOMETRIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION ULGRLS (IN)	SPED KNOTS	INDEX OF REFRACTION
27500.0	347.8	-29.6	19.4	497.4	608.0	260.0	49.5	1.000111
28000.0	346.3	-29.9	19.5	495.9	607.6	260.1	50.1	1.000111
28100.0	344.8	-30.2	19.6	494.4	607.3	260.1	50.6	1.000111
28200.0	343.4	-30.5	19.7	492.9	606.9	260.2	51.2	1.000110
28300.0	341.9	-30.7	19.8	491.4	606.6	260.2	51.7	1.000110
28400.0	340.5	-31.0	19.9	489.9	606.2	260.3	52.2	1.000110
28500.0	339.1	-31.3	20.0	488.4	605.9	260.3	52.4	1.000109
28600.0	337.6	-31.6	20.0	486.8	605.5	260.3	52.5	1.000109
28700.0	336.1	-31.9	20.1	485.3	605.2	260.3	52.7	1.000109
28800.0	334.7	-32.2	20.2	483.7	604.8	260.3	52.8	1.000108
28900.0	333.2	-32.4	20.3	482.2	604.5	260.3	53.0	1.000108
29000.0	331.8	-32.7	20.3	480.6	604.1	260.3	53.1	1.000108
29100.0	330.3	-33.0	20.4	479.1	603.8	260.3	53.3	1.000107
29200.0	328.9	-33.3	20.5	477.6	603.4	260.4	53.4	1.000107
29300.0	327.4	-33.6	20.6	476.1	603.0	260.4	53.6	1.000107
29400.0	326.0	-33.8	20.6	474.5	602.7	260.4	53.7	1.000106
29500.0	324.6	-34.1	20.7	473.0	602.3	260.4	53.9	1.000106
29600.0	323.2	-34.4	20.8	471.5	602.0	260.4	54.0	1.000105
29700.0	321.8	-34.7	20.8	470.0	601.6	260.3	54.2	1.000105
29800.0	320.4	-35.0	20.9	468.5	601.3	260.0	54.2	1.000105
29900.0	319.0	-35.2	21.0	467.1	600.9	265.7	54.2	1.000104
30000.0	317.6	-35.5	21.1	465.6	600.6	265.3	54.2	1.000104
30100.0	316.2	-35.8	21.1	464.1	600.2	265.0	54.2	1.000104
30200.0	314.8	-36.1	21.2	462.6	599.8	264.6	54.3	1.000103
30300.0	313.5	-36.4	21.3	461.2	599.5	264.3	54.3	1.000103
30400.0	312.1	-36.6	21.3	459.7	599.1	263.9	54.3	1.000103
30500.0	310.8	-36.9	21.4	458.3	598.8	263.6	54.3	1.000102
30600.0	309.4	-37.2	21.5	456.8	598.4	263.3	54.4	1.000102
30700.0	308.1	-37.5	21.6	455.4	598.1	262.9	54.4	1.000102
30800.0	306.7	-37.8	21.6	453.9	597.7	262.6	54.4	1.000101
30900.0	305.4	-38.1	21.7	452.5	597.4	262.2	54.5	1.000101
31000.0	304.1	-38.3	21.8	451.1	597.0	261.9	54.5	1.000101
31100.0	302.7	-38.6	21.9	449.6	596.6	261.5	54.5	1.000100
31200.0	301.4	-38.9	21.9	448.2	596.3	261.3	54.4	1.000100
31300.0	300.1	-39.2	22.0	446.8	595.9	261.1	54.3	1.000100
31400.0	298.8	-39.4	21.1*	445.2	595.6	260.9	54.2	1.000099
31500.0	297.4	-39.6	20.2**	443.7	595.3	260.7	54.0	1.000099
31600.0	296.1	-39.9	19.2**	442.1	595.1	260.5	53.9	1.000099
31700.0	294.8	-40.1	18.3**	440.6	594.8	260.3	53.8	1.000098
31800.0	293.5	-40.3	17.3**	439.0	594.5	260.1	53.6	1.000098

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 63  
ASCENSION NO. 489 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODETIC COORDINATES  
32.400043 LAT DEG  
106.37033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
31900.0	292.1	-40.5	16.4**	437.5	504.2	259.9	53.5	1.000098
32000.0	290.8	-40.8	15.0**	435.9	503.9	259.7	53.4	1.000097
32100.0	289.5	-41.0	14.5**	434.4	503.0	259.5	53.3	1.000097
32200.0	288.2	-41.2	13.5**	432.9	503.3	259.3	53.1	1.000097
32300.0	287.0	-41.4	12.6**	431.4	503.0	259.1	53.0	1.000096
32400.0	285.7	-41.7	11.6**	429.9	502.8	258.9	52.9	1.000096
32500.0	284.4	-41.4	10.7**	428.4	502.5	258.6	52.8	1.000096
32600.0	283.1	-42.1	9.7**	426.9	502.2	258.8	52.7	1.000095
32700.0	281.9	-42.5	8.8**	425.4	501.9	258.9	52.6	1.000095
32800.0	280.6	-42.7	7.8**	423.9	501.0	258.9	52.5	1.000094
32900.0	279.3	-42.8	6.9**	422.4	501.3	258.9	52.4	1.000094
33000.0	278.1	-43.0	5.9**	420.9	501.0	258.9	52.3	1.000094
33100.0	276.8	-43.2	5.0**	419.4	500.7	259.0	52.2	1.000093
33200.0	275.6	-43.4	4.0**	418.0	500.4	259.0	52.1	1.000093
33300.0	274.4	-43.7	3.1**	416.5	500.2	259.0	52.0	1.000093
33400.0	273.1	-43.9	2.1**	415.1	500.9	259.0	51.9	1.000092
33500.0	271.9	-44.1	1.2**	413.6	500.6	259.1	51.8	1.000092
33600.0	270.7	-44.3	.2**	412.2	500.3	259.1	51.7	1.000092
33700.0	269.5	-44.6		410.7	500.0	259.1	51.7	1.000091
33800.0	268.3	-44.8		409.3	500.7	259.3	51.7	1.000091
33900.0	267.1	-45.1		407.9	500.3	259.6	51.7	1.000091
34000.0	265.8	-45.3		406.5	500.0	259.9	51.8	1.000091
34100.0	264.6	-45.6		405.1	500.7	260.2	51.8	1.000090
34200.0	263.4	-45.8		403.7	500.4	260.4	51.9	1.000090
34300.0	262.2	-46.1		402.3	500.0	260.7	52.0	1.000090
34400.0	261.0	-46.3		400.9	500.7	261.0	52.0	1.000089
34500.0	259.8	-46.6		399.5	500.4	261.3	52.1	1.000089
34600.0	258.6	-46.8		398.1	500.1	261.6	52.2	1.000089
34700.0	257.4	-47.1		396.7	500.7	261.8	52.2	1.000088
34800.0	256.3	-47.3		395.3	500.4	262.1	52.3	1.000088
34900.0	255.1	-47.6		394.0	500.1	262.4	52.4	1.000088
35000.0	253.9	-47.9		392.6	500.8	262.7	52.4	1.000087
35100.0	252.8	-48.1		391.3	500.4	263.1	52.3	1.000087
35200.0	251.6	-48.3		389.9	500.1	263.5	52.1	1.000087
35300.0	250.5	-48.6		388.6	500.8	263.9	51.9	1.000087
35400.0	249.3	-48.8		387.1	500.5	264.4	51.8	1.000086
35500.0	248.1	-49.0		385.6	500.2	264.8	51.6	1.000086
35600.0	247.0	-49.2		384.2	500.0	265.2	51.5	1.000086
35700.0	245.8	-49.4		382.7	500.7	265.6	51.3	1.000085
35800.0	244.6	-49.6		381.2	500.5	266.1	51.2	1.000085

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3900.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 409

UPPER AIR DATA  
28/0020409  
WHITE SANDS

TABLE 12 Con't

GEODETIC COORDINATES  
32.400045 LAT DEG  
106.57033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TH)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3900.0	243.5	-49.8		379.8	582.2	266.5	51.0	1.000065
3800.0	242.5	-50.0		378.5	582.0	267.0	50.9	1.000064
3700.0	241.2	-50.2		376.9	581.7	267.4	50.8	1.000064
36200.0	240.1	-50.4		375.4	581.5	267.8	50.6	1.000064
36300.0	239.9	-50.6		374.0	581.2	267.6	50.6	1.000063
36400.0	237.8	-50.8		372.6	580.9	267.2	50.6	1.000063
36500.0	236.7	-51.0		371.1	580.7	266.8	50.7	1.000063
36600.0	235.6	-51.2		369.7	580.4	266.4	50.7	1.000062
36700.0	234.5	-51.4		368.5	580.2	266.0	50.7	1.000062
36800.0	233.4	-51.6		366.9	579.9	265.6	50.8	1.000062
36900.0	232.5	-51.8		365.5	579.7	265.2	50.8	1.000061
37000.0	231.2	-52.0		364.1	579.4	264.7	50.8	1.000061
37100.0	230.1	-52.2		362.7	579.1	264.3	50.9	1.000061
37200.0	229.0	-52.4		361.5	578.9	263.9	50.9	1.000060
37300.0	227.9	-52.6		359.9	578.6	263.5	51.0	1.000060
37400.0	226.9	-52.7		358.6	578.4	263.1	51.0	1.000060
37500.0	225.8	-52.9		357.2	578.1	262.5	51.2	1.000060
37600.0	224.7	-53.1		355.8	577.9	261.7	51.7	1.000079
37700.0	223.7	-53.3		354.5	577.6	260.6	51.3	1.000079
37800.0	222.6	-53.5		353.1	577.5	260.0	52.8	1.000079
37900.0	221.6	-53.7		351.8	577.1	259.2	53.3	1.000078
38000.0	220.5	-53.9		350.4	576.8	258.4	53.9	1.000078
38100.0	219.5	-54.1		349.1	576.6	257.6	54.4	1.000078
38200.0	218.5	-54.3		347.8	576.3	256.9	55.1	1.000077
38300.0	217.4	-54.5		346.5	576.0	256.1	55.6	1.000077
38400.0	216.4	-54.7		345.1	575.8	255.5	56.2	1.000077
38500.0	215.4	-54.9		343.8	575.5	254.6	56.8	1.000077
38600.0	214.4	-55.1		342.5	575.3	253.9	57.4	1.000076
38700.0	213.4	-55.3		341.2	575.0	253.2	58.0	1.000076
38800.0	212.4	-55.5		339.9	574.7	252.6	58.4	1.000076
38900.0	211.4	-55.7		338.6	574.5	252.2	58.6	1.000075
39000.0	210.4	-55.9		337.3	574.2	251.7	58.8	1.000075
39100.0	209.4	-56.1		336.0	574.0	251.2	59.1	1.000075
39200.0	208.4	-56.3		334.8	573.7	250.8	59.3	1.000075
39300.0	207.4	-56.5		333.5	573.4	250.3	59.5	1.000074
39400.0	206.4	-56.7		332.2	573.2	249.6	59.7	1.000074
39500.0	205.5	-56.9		331.0	572.9	249.4	59.9	1.000074
39600.0	204.5	-57.1		329.7	572.7	248.9	60.2	1.000073
39700.0	203.5	-57.3		328.5	572.4	248.5	60.4	1.000073
39800.0	202.6	-57.5		327.2	572.1	248.0	60.6	1.000073

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

UPPER AIR DATA  
2870020409  
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 489 0800 MDT

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARMS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3900.0	201.6	-57.7		326.0	571.9	247.0	60.9	1.000073
4000.0	200.7	-57.9		324.7	571.0	247.2	61.1	1.000072
4100.0	199.7	-58.1		323.5	571.4	246.7	61.4	1.000072
4200.0	198.8	-58.3		322.3	571.1	246.3	61.6	1.000072
4300.0	197.8	-58.5		321.1	570.7	246.2	61.2	1.000072
4400.0	196.8	-58.7		319.8	570.4	246.2	60.7	1.000071
4500.0	195.9	-59.0		318.6	570.1	246.1	60.3	1.000071
4600.0	194.9	-59.2		317.4	569.8	246.1	59.9	1.000071
4700.0	194.0	-59.4		316.2	569.5	246.0	59.5	1.000070
4800.0	193.1	-59.7		315.0	569.2	246.0	59.0	1.000070
4900.0	192.1	-59.9		313.8	568.9	245.9	58.6	1.000070
41000.0	191.2	-60.1		312.6	568.6	245.9	58.2	1.000070
41100.0	190.3	-60.3		311.4	568.3	245.8	57.8	1.000069
41200.0	189.3	-60.6		310.3	568.0	245.8	57.3	1.000069
41300.0	188.4	-60.8		309.1	567.7	245.7	56.9	1.000069
41400.0	187.5	-61.0		307.9	567.4	245.7	56.5	1.000069
41500.0	186.6	-61.2		306.8	567.1	245.7	56.1	1.000068
41600.0	185.7	-61.5		305.6	566.8	246.2	56.3	1.000068
41700.0	184.8	-61.7		304.4	566.5	246.7	56.5	1.000068
41800.0	183.9	-61.9		303.3	566.2	247.3	56.6	1.000068
41900.0	183.0	-61.9		301.8	566.2	247.0	56.8	1.000067
42000.0	182.1	-61.8		300.2	566.4	248.3	57.0	1.000067
42100.0	181.2	-61.7		298.5	566.5	248.6	57.2	1.000066
42200.0	180.3	-61.6		296.9	566.7	249.3	57.4	1.000066
42300.0	179.5	-61.4		295.3	566.9	249.0	57.6	1.000066
42400.0	178.6	-61.3		293.7	567.0	250.3	57.8	1.000065
42500.0	177.7	-61.2		292.1	567.2	250.0	58.0	1.000065
42600.0	176.8	-61.1		290.5	567.3	251.3	58.2	1.000065
42700.0	176.0	-61.0		288.9	567.5	251.7	59.1	1.000064
42800.0	175.1	-60.8		287.3	567.7	252.0	60.0	1.000064
42900.0	174.3	-60.7		285.8	567.8	252.4	60.9	1.000064
43000.0	173.4	-60.6		284.2	568.0	252.7	61.8	1.000064
43100.0	172.6	-60.5		282.7	568.1	253.1	62.7	1.000063
43200.0	171.7	-60.3		281.1	568.4	253.4	63.6	1.000063
43300.0	170.9	-60.1		279.5	568.6	253.7	64.5	1.000062
43400.0	170.1	-59.9		277.9	568.9	254.0	65.4	1.000062
43500.0	169.3	-59.7		276.3	569.2	254.3	66.3	1.000062
43600.0	168.4	-59.5		274.7	569.4	254.6	67.2	1.000061
43700.0	167.6	-59.3		273.1	569.7	254.9	68.1	1.000061
43800.0	166.8	-59.1		271.5	570.0	255.1	69.1	1.000060

UPPER AIR DATA  
2870020489  
WHITE SANDS  
TABLE 12 Con't

GEODLTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

STATION ALTITUDE 3989.00 FT L F MSL  
14 OCT. 83 0800 MDT  
ASCENDING NO. 404

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION.
43900.0	160.0	-58.9		269.9	570.2	255.4	68.1	1.000060
44000.0	165.2	-58.9		260.6	570.3	255.7	68.2	1.000060
44100.0	164.4	-59.0		267.4	570.2	255.9	68.2	1.000060
44200.0	163.6	-59.1		266.2	570.0	256.2	68.2	1.000059
44300.0	162.8	-59.2		265.1	569.9	256.5	68.2	1.000059
44400.0	162.0	-59.3		263.9	569.7	256.7	68.3	1.000059
44500.0	161.2	-59.4		262.8	569.6	257.0	68.3	1.000059
44600.0	160.5	-59.5		261.6	569.4	257.2	68.3	1.000058
44700.0	159.7	-59.6		260.5	569.3	257.5	68.4	1.000058
44800.0	158.9	-59.7		259.4	569.1	257.8	68.4	1.000058
44900.0	158.1	-59.8		258.2	569.0	258.1	67.8	1.000058
45000.0	157.4	-59.9		257.1	568.9	258.4	67.0	1.000057
45100.0	156.6	-60.0		256.0	568.7	258.7	66.2	1.000057
45200.0	155.9	-60.1		254.9	568.6	259.0	65.4	1.000057
45300.0	155.1	-60.3		253.8	568.4	259.4	64.6	1.000057
45400.0	154.3	-60.4		252.7	568.3	259.7	63.8	1.000056
45500.0	153.6	-60.5		251.6	568.1	260.1	63.0	1.000056
45600.0	152.9	-60.6		250.5	568.0	260.4	62.3	1.000056
45700.0	152.1	-60.7		249.4	567.9	260.8	61.5	1.000056
45800.0	151.4	-60.8		248.3	567.7	261.2	61.7	1.000055
45900.0	150.6	-60.9		247.3	567.6	261.6	59.9	1.000055
46000.0	149.9	-61.0		246.2	567.4	261.9	59.0	1.000055
46100.0	149.2	-60.9		244.9	567.5	262.1	58.1	1.000055
46200.0	148.5	-60.9		243.6	567.6	262.4	57.1	1.000054
46300.0	147.7	-60.8		242.4	567.7	262.8	56.1	1.000054
46400.0	147.0	-60.7		241.1	567.8	262.9	55.2	1.000054
46500.0	146.3	-60.7		239.9	567.9	263.1	54.2	1.000053
46600.0	145.6	-60.6		238.8	568.0	263.4	53.3	1.000053
46700.0	144.9	-60.5		237.4	568.1	263.7	52.3	1.000053
46800.0	144.2	-60.5		236.2	568.1	264.0	51.3	1.000053
46900.0	143.5	-60.4		234.9	568.2	264.3	50.4	1.000052
47000.0	142.8	-60.3		233.7	568.3	264.7	49.4	1.000052
47100.0	142.1	-60.3		232.5	568.4	265.0	48.5	1.000052
47200.0	141.4	-60.2		231.3	568.5	265.2	48.0	1.000052
47300.0	140.7	-60.3		230.3	568.4	265.3	47.5	1.000051
47400.0	140.0	-60.4		229.3	568.2	265.5	47.0	1.000051
47500.0	139.3	-60.5		228.3	568.1	265.7	46.6	1.000051
47600.0	138.7	-60.6		227.3	568.0	265.9	46.1	1.000051
47700.0	138.0	-60.7		226.3	567.8	266.1	45.6	1.000050
47800.0	137.3	-60.8		225.3	567.7	266.3	45.1	1.000050

STATION ALTITUDE 3989.00 FT MSL  
 14 OCT. 85  
 ASCENSION NO. 489  
 0800 MDT

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODLTIC COORDINATES  
 32.40043 LAT LEG  
 106.37033 LONG LEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
47900.0	130.6	-60.9		224.3	567.5	266.5	44.6	1.000050
48000.0	130.0	-61.0		223.3	567.4	266.7	44.1	1.000050
48100.0	130.3	-61.1		222.3	567.3	266.9	43.7	1.000050
48200.0	134.7	-61.2		221.4	567.1	267.1	43.2	1.000049
48300.0	134.0	-61.3		220.4	567.0	267.3	42.9	1.000049
48400.0	133.3	-61.5		219.4	566.8	267.3	42.8	1.000049
48500.0	132.7	-61.6		218.5	566.7	267.4	42.7	1.000049
48600.0	132.0	-61.7		217.5	566.5	267.5	42.6	1.000048
48700.0	131.4	-61.8		216.6	566.4	267.6	42.6	1.000048
48800.0	130.8	-61.9		215.6	566.3	267.7	42.5	1.000048
48900.0	130.1	-62.0		214.7	566.1	267.6	42.4	1.000048
49000.0	129.5	-62.1		213.7	566.0	267.6	42.3	1.000048
49100.0	128.9	-62.2		212.8	565.8	267.9	42.3	1.000047
49200.0	128.2	-62.3		211.8	565.7	268.0	42.2	1.000047
49300.0	127.6	-62.4		210.9	565.6	268.1	42.1	1.000047
49400.0	127.0	-62.5		210.0	565.4	268.2	42.0	1.000047
49500.0	126.4	-62.6		209.1	565.3	268.1	42.1	1.000047
49600.0	125.7	-62.7		208.2	565.1	267.9	42.2	1.000046
49700.0	125.1	-62.8		207.2	565.0	267.7	42.3	1.000046
49800.0	124.5	-62.8		206.2	565.0	267.5	42.4	1.000046
49900.0	123.9	-62.8		205.2	565.0	267.4	42.5	1.000046
50000.0	123.3	-62.8		204.2	565.0	267.2	42.6	1.000045
50100.0	122.7	-62.9		203.2	564.9	267.0	42.7	1.000045
50200.0	122.1	-62.9		202.3	564.9	266.9	42.8	1.000045
50300.0	121.5	-62.9		201.3	564.9	266.7	42.9	1.000045
50400.0	120.9	-62.9		200.3	564.9	266.5	42.9	1.000045
50500.0	120.3	-62.9		199.3	564.9	266.3	43.0	1.000044
50600.0	119.7	-62.9		198.4	564.8	266.1	43.1	1.000044
50700.0	119.1	-63.0		197.4	564.8	265.9	43.1	1.000044
50800.0	118.5	-63.0		196.5	564.8	265.6	43.2	1.000044
50900.0	117.9	-63.0		195.5	564.8	265.4	43.2	1.000044
51000.0	117.4	-63.0		194.6	564.6	265.1	43.2	1.000043
51100.0	116.8	-63.0		193.6	564.7	264.9	43.3	1.000043
51200.0	116.2	-63.0		192.7	564.7	264.7	43.3	1.000043
51300.0	115.6	-63.0		191.7	564.7	264.4	43.4	1.000043
51400.0	115.1	-63.1		190.8	564.7	264.2	43.4	1.000042
51500.0	114.5	-63.1		189.9	564.7	263.9	43.5	1.000042
51600.0	113.9	-63.1		189.0	564.6	263.8	43.3	1.000042
51700.0	113.4	-63.2		188.2	564.4	263.6	43.1	1.000042
51800.0	112.8	-63.5		187.5	564.1	263.4	42.9	1.000042

STATION ALTITUDE 3904.00 FEET MSL  
14 OCT. 63  
ASCESSION NO. 404 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES, CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	#IRID DATA DIRECTION DEGREES (TIN)	SPEED KNOTS	INDEX OF REFRACTION
51900.0	112.3	-63.7		186.8	563.8	263.2	42.7	1.000042
52000.0	111.7	-64.0		186.1	563.4	263.0	42.5	1.000041
52100.0	111.2	-64.2		185.4	563.1	262.9	42.3	1.000041
52200.0	110.6	-64.5		184.7	562.8	262.7	42.1	1.000041
52300.0	110.1	-64.7		184.0	562.4	262.5	42.0	1.000041
52400.0	109.5	-64.9		183.0	562.5	262.3	41.8	1.000041
52500.0	109.0	-64.9		182.0	562.7	262.1	41.6	1.000041
52600.0	108.5	-64.4		181.0	562.8	261.9	41.4	1.000040
52700.0	107.9	-64.5		180.0	563.0	261.7	41.2	1.000040
52800.0	107.4	-64.1		179.0	563.2	261.5	41.0	1.000040
52900.0	106.9	-64.0		178.0	563.4	261.3	40.8	1.000040
53000.0	106.3	-63.8		177.0	563.6	261.2	40.6	1.000039
53100.0	105.8	-63.7		176.0	563.8	261.0	40.5	1.000039
53200.0	105.3	-63.6		175.0	564.0	260.8	40.3	1.000039
53300.0	104.8	-63.4		174.0	564.2	260.6	40.1	1.000039
53400.0	104.2	-63.3		173.0	564.4	260.4	39.9	1.000039
53500.0	103.7	-63.1		172.1	564.6	260.2	39.7	1.000038
53600.0	103.2	-63.0		171.1	564.8	260.0	39.5	1.000038
53700.0	102.7	-62.9		170.2	564.9	259.7	39.2	1.000038
53800.0	102.2	-63.0		169.4	564.8	259.4	38.8	1.000038
53900.0	101.7	-63.1		168.6	564.7	259.2	38.5	1.000038
54000.0	101.2	-63.1		167.9	564.6	258.9	38.1	1.000037
54100.0	100.7	-63.2		167.1	564.5	258.6	37.8	1.000037
54200.0	100.2	-63.3		166.3	564.4	258.3	37.4	1.000037
54300.0	99.7	-63.3		165.5	564.4	258.0	37.0	1.000037
54400.0	99.2	-63.2		164.7	564.5	257.7	36.7	1.000037
54500.0	98.7	-63.2		163.8	564.5	257.4	36.3	1.000036
54600.0	98.3	-63.1		163.0	564.6	257.0	36.0	1.000036
54700.0	97.8	-63.1		162.1	564.7	256.7	35.6	1.000036
54800.0	97.3	-63.0		161.3	564.7	256.4	35.0	1.000036
54900.0	96.8	-63.0		160.5	564.8	256.1	34.3	1.000036
55000.0	96.3	-62.9		159.7	564.8	255.8	33.6	1.000036
55100.0	95.9	-62.9		158.8	564.9	255.4	33.0	1.000035
55200.0	95.4	-62.8		158.0	565.0	255.1	32.3	1.000035
55300.0	94.9	-62.8		157.2	565.0	254.7	31.6	1.000035
55400.0	94.5	-62.7		156.4	565.1	254.3	30.9	1.000035
55500.0	94.0	-62.7		155.6	565.2	253.9	30.2	1.000035
55600.0	93.6	-62.6		154.8	565.2	253.5	29.5	1.000034
55700.0	93.1	-62.6		154.0	565.3	253.1	28.9	1.000034
55800.0	92.6	-62.5		153.2	565.4	252.6	28.2	1.000034



STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 63  
ASCENSION NO. 489

UPPER AIR DATA  
2070020489  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

0800 MDT

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TWD) SPEED (KTS)	INDEX OF REFRACTION
55900.0	92.2	-62.5		152.4	565.4	252.3	1.000034
56000.0	91.7	-62.4		151.7	565.5	252.1	1.000034
56100.0	91.3	-62.4		150.9	565.6	251.8	1.000034
56200.0	90.8	-62.4		150.1	565.6	251.6	1.000033
56300.0	90.4	-62.3		149.3	565.7	251.4	1.000033
56400.0	89.9	-62.3		148.6	565.8	251.2	1.000033
56500.0	89.5	-62.2		147.8	565.8	250.9	1.000033
56600.0	89.1	-62.2		147.1	565.9	250.6	1.000033
56700.0	88.6	-62.1		146.3	566.0	250.4	1.000033
56800.0	88.2	-62.1		145.6	566.0	250.1	1.000032
56900.0	87.8	-62.0		144.8	566.1	249.6	1.000032
57000.0	87.3	-62.0		144.1	566.1	249.5	1.000032
57100.0	86.9	-61.9		143.3	566.2	249.4	1.000032
57200.0	86.5	-61.9		142.6	566.3	249.3	1.000032
57300.0	86.1	-61.8		141.9	566.3	249.1	1.000032
57400.0	85.6	-61.8		141.2	566.3	249.0	1.000031
57500.0	85.2	-61.9		140.5	566.2	248.9	1.000031
57600.0	84.8	-62.0		139.9	566.1	248.8	1.000031
57700.0	84.4	-62.1		139.3	566.0	248.7	1.000031
57800.0	84.0	-62.2		138.6	565.9	248.6	1.000031
57900.0	83.6	-62.2		138.0	565.8	248.4	1.000031
58000.0	83.1	-62.3		137.4	565.7	248.3	1.000031
58100.0	82.7	-62.4		136.8	565.6	248.2	1.000030
58200.0	82.3	-62.5		136.1	565.5	248.1	1.000030
58300.0	81.9	-62.6		135.5	565.3	247.9	1.000030
58400.0	81.5	-62.6		134.9	565.2	247.7	1.000030
58500.0	81.1	-62.7		134.3	565.1	247.5	1.000030
58600.0	80.7	-62.8		133.7	565.0	247.4	1.000030
58700.0	80.3	-62.9		133.1	564.9	247.2	1.000030
58800.0	79.9	-63.0		132.5	564.8	247.0	1.000030
58900.0	79.5	-63.0		131.9	564.7	246.8	1.000029
59000.0	79.2	-63.1		131.3	564.6	246.6	1.000029
59100.0	78.8	-63.2		130.7	564.5	246.4	1.000029
59200.0	78.4	-63.3		130.1	564.4	246.2	1.000029
59300.0	78.0	-63.3		129.5	564.3	246.0	1.000029
59400.0	77.6	-63.4		128.9	564.2	245.8	1.000029
59500.0	77.2	-63.5		128.3	564.1	245.5	1.000029
59600.0	76.9	-63.6		127.8	564.0	245.6	1.000028
59700.0	76.5	-63.7		127.2	563.9	244.6	1.000028
59800.0	76.1	-63.8		126.4	564.2	244.1	1.000028

STATION ALTITUDE 2999.00 FEET MSL  
14 OCT. 63 0800 MDT  
ASCENSION NO. 409

UPPER AIR DATA  
2870020403  
WHITE SANDS  
TABLE 12 Con't

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

GEODETTIC ALTITUDE FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
59900.0	73.7	-62.9		125.5	564.9	243.5	15.5	1.000028
60000.0	73.4	-62.5		124.5	565.6	242.9	14.9	1.000028
60100.0	73.0	-61.3		123.0	560.3	242.3	14.4	1.000028
60200.0	74.0	-61.3		122.7	567.1	241.6	13.8	1.000027
60300.0	74.5	-60.7		121.0	567.0	240.0	13.2	1.000027
60400.0	73.9	-60.2		120.9	566.5	240.0	12.7	1.000027
60500.0	73.5	-59.7		120.0	569.2	239.1	12.1	1.000027
60600.0	73.2	-59.3		119.2	569.7	238.2	11.6	1.000027
60700.0	72.8	-59.2		118.6	569.8	237.4	11.3	1.000026
60800.0	72.5	-59.2		118.0	569.9	237.3	11.7	1.000026
60900.0	72.1	-59.1		117.4	569.9	237.2	12.0	1.000026
61000.0	71.8	-59.1		116.8	570.0	237.0	12.4	1.000026
61100.0	71.4	-59.0		116.2	570.1	236.9	12.7	1.000026
61200.0	71.1	-59.0		115.6	570.1	236.0	13.1	1.000026
61300.0	70.8	-58.9		115.1	570.2	236.7	13.4	1.000026
61400.0	70.4	-58.9		114.5	570.3	236.6	13.8	1.000025
61500.0	70.1	-58.8		113.9	570.4	236.5	14.1	1.000025
61600.0	69.7	-58.7		113.3	570.6	236.4	14.5	1.000025
61700.0	69.4	-58.5		112.6	570.6	236.3	14.8	1.000025
61800.0	69.1	-58.5		112.0	571.1	236.2	15.1	1.000025
61900.0	68.7	-58.1		111.4	571.3	235.7	15.3	1.000025
62000.0	68.4	-57.9		110.7	571.6	235.2	14.9	1.000025
62100.0	68.1	-57.7		110.1	571.8	235.7	14.5	1.000025
62200.0	67.8	-57.5		109.5	572.1	236.0	14.2	1.000024
62300.0	67.4	-57.3		108.9	572.3	225.1	13.9	1.000024
62400.0	67.1	-57.1		108.2	572.6	222.2	13.6	1.000024
62500.0	66.8	-56.9		107.6	572.9	219.1	13.4	1.000024
62600.0	66.5	-56.7		107.0	573.1	218.0	13.2	1.000024
62700.0	66.2	-56.5		106.4	573.4	212.7	13.0	1.000024
62800.0	65.9	-56.4		105.8	573.6	209.4	12.9	1.000024
62900.0	65.5	-56.2		105.2	573.9	206.0	12.8	1.000023
63000.0	65.2	-56.0		104.6	574.1	202.6	12.8	1.000023
63100.0	64.9	-55.8		104.0	574.4	199.2	12.8	1.000023
63200.0	64.6	-55.6		103.5	574.6	198.0	12.8	1.000023
63300.0	64.3	-55.4		102.9	574.9	198.2	12.7	1.000023
63400.0	64.0	-55.2		102.3	575.1	197.8	12.7	1.000023
63500.0	63.7	-55.0		101.7	575.4	197.4	12.6	1.000023
63600.0	63.4	-54.8		101.1	575.6	197.0	12.6	1.000023
63700.0	63.1	-54.8		100.6	575.7	196.6	12.6	1.000022
63800.0	62.8	-55.1		100.3	575.3	196.2	12.5	1.000022

STATION ALTITUDE 3949.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 489 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES (IN)	SPEED KNOTS	
03900.0	62.5	-55.5			99.9	575.0	195.0	12.5	1.000022
04000.0	62.2	-55.6			99.6	574.6	195.4	12.5	1.000022
04100.0	61.9	-55.8			99.2	574.3	195.0	12.4	1.000022
04200.0	61.6	-56.1			98.9	573.9	194.6	12.4	1.000022
04300.0	61.3	-56.4			98.5	573.6	194.2	12.3	1.000022
04400.0	61.0	-56.6			98.2	573.3	197.4	12.6	1.000022
04500.0	60.7	-56.9			97.8	572.9	202.5	13.1	1.000022
04600.0	60.4	-57.0			97.4	572.8	207.2	13.7	1.000022
04700.0	60.2	-56.9			96.9	572.9	211.5	14.4	1.000022
04800.0	59.9	-56.8			96.4	573.0	215.4	15.1	1.000021
04900.0	59.6	-56.8			95.9	573.1	218.8	15.9	1.000021
05000.0	59.3	-56.7			95.4	573.1	222.0	16.8	1.000021
05100.0	59.0	-56.7			95.0	573.2	224.6	17.7	1.000021
05200.0	58.7	-56.6			94.5	573.3	227.3	18.7	1.000021
05300.0	58.5	-56.5			94.0	573.4	229.6	19.7	1.000021
05400.0	58.2	-56.5			93.5	573.5	231.7	20.7	1.000021
05500.0	57.9	-56.4			93.1	573.5	233.5	21.7	1.000021
05600.0	57.6	-56.3			92.6	573.6	234.5	22.3	1.000021
05700.0	57.4	-56.3			92.1	573.7	233.9	21.9	1.000021
05800.0	57.1	-56.2			91.7	573.8	233.4	21.5	1.000020
05900.0	56.8	-56.2			91.2	573.9	232.8	21.2	1.000020
06000.0	56.5	-56.1			90.7	574.0	232.2	20.8	1.000020
06100.0	56.3	-56.0			90.3	574.0	231.6	20.5	1.000020
06200.0	56.0	-56.0			89.8	574.1	230.9	20.1	1.000020
06300.0	55.7	-55.9			89.4	574.2	230.2	19.8	1.000020
06400.0	55.5	-55.9			88.9	574.2	229.5	19.4	1.000020
06500.0	55.2	-55.8			88.5	574.2	228.8	19.1	1.000020
06600.0	54.9	-55.7			88.1	574.2	228.1	18.7	1.000020
06700.0	54.7	-56.0			87.7	574.1	227.5	18.4	1.000020
06800.0	54.4	-56.0			87.3	574.1	226.4	18.0	1.000019
06900.0	54.2	-56.0			86.9	574.1	224.7	17.0	1.000019
07000.0	53.9	-56.0			86.5	574.1	222.7	16.0	1.000019
07100.0	53.7	-56.0			86.1	574.1	220.4	15.1	1.000019
07200.0	53.4	-56.0			85.7	574.1	217.0	14.1	1.000019
07300.0	53.1	-56.0			85.3	574.0	214.9	13.2	1.000019
07400.0	52.9	-56.0			84.9	574.0	211.6	12.3	1.000019
07500.0	52.6	-56.1			84.5	574.0	207.7	11.5	1.000019
07600.0	52.4	-56.1			84.1	574.0	203.5	10.7	1.000019
07700.0	52.1	-56.1			83.7	574.0	198.2	10.0	1.000019
07800.0	51.9	-56.1			83.3	574.0	192.5	9.4	1.000019

STATION ALTITUDE 3989.00 F ET MSL  
14 OCT. 83  
ASCENSION I.O. 439 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION.
						DIRECTION DEGREES (TN)	SPEED KNOTS	
67900.0	51.0	-50.1		82.9	573.9	186.0	8.9	1.000018
68000.0	51.4	-50.1		82.5	573.9	178.9	8.6	1.000018
68100.0	51.2	-50.1		82.1	573.9	175.9	8.4	1.000018
68200.0	50.9	-50.1		81.7	573.9	174.5	8.3	1.000018
68300.0	50.7	-50.2		81.4	573.9	173.1	8.3	1.000018
68400.0	50.4	-50.2		81.0	573.9	171.6	8.2	1.000018
68500.0	50.2	-50.2		80.6	573.8	170.2	8.1	1.000018
68600.0	50.0	-50.2		80.2	573.8	168.7	8.1	1.000018
68700.0	49.7	-50.2		79.8	573.9	167.2	8.0	1.000018
68800.0	49.5	-50.2		79.4	573.9	165.6	8.0	1.000018
68900.0	49.2	-50.1		79.1	573.9	164.1	7.9	1.000018
69000.0	49.0	-50.1		78.7	573.9	162.5	7.9	1.000018
69100.0	48.8	-50.1		78.3	574.0	161.0	7.8	1.000017
69200.0	48.5	-50.1		77.9	574.0	159.4	7.8	1.000017
69300.0	48.3	-50.1		77.5	574.0	160.0	7.8	1.000017
69400.0	48.1	-50.0		77.2	574.0	163.8	7.7	1.000017
69500.0	47.9	-50.0		76.8	574.1	167.6	7.7	1.000017
69600.0	47.6	-50.0		76.4	574.1	171.4	7.7	1.000017
69700.0	47.4	-50.0		76.0	574.1	175.2	7.6	1.000017
69800.0	47.2	-50.0		75.7	574.1	178.9	7.6	1.000017
69900.0	47.0	-55.9		75.3	574.2	182.5	8.0	1.000017
70000.0	46.7	-55.9		74.9	574.2	186.0	8.2	1.000017
70100.0	46.5	-55.9		74.6	574.2	189.5	8.3	1.000017
70200.0	46.3	-55.9		74.2	574.3	192.5	8.3	1.000017
70300.0	46.1	-55.8		73.9	574.3	195.5	8.8	1.000016
70400.0	45.9	-55.8		73.5	574.3	198.4	9.0	1.000016
70500.0	45.6	-55.8		73.1	574.3	200.9	9.3	1.000016
70600.0	45.4	-55.8		72.8	574.4	201.2	9.2	1.000016
70700.0	45.2	-55.8		72.4	574.4	201.6	9.2	1.000016
70800.0	45.0	-55.7		72.1	574.4	201.9	9.2	1.000016
70900.0	44.8	-55.7		71.7	574.4	202.5	9.1	1.000016
71000.0	44.6	-55.7		71.4	574.5	202.6	9.1	1.000016
71100.0	44.4	-55.9		71.1	574.2	203.0	9.1	1.000016
71200.0	44.1	-56.2		70.9	573.8	203.5	9.0	1.000016
71300.0	43.9	-56.6		70.7	573.5	203.7	9.0	1.000016
71400.0	43.7	-56.9		70.4	572.9	204.0	9.0	1.000016
71500.0	43.5	-57.2		70.2	572.5	204.4	8.9	1.000016
71600.0	43.3	-57.5		70.0	572.1	204.6	8.9	1.000016
71700.0	43.1	-57.8		69.7	571.7	205.1	8.9	1.000016
71800.0	42.9	-58.2		69.5	571.2	205.5	8.8	1.000015

UPPER AIR DATA  
2870020489  
WHITE SANDS  
TABLE 12 Con't

STATION ALTITUDE 3989.00 F. ET NSL  
14 OCT. 63  
ASCENSION NO. 489 0800 MDT

GEONETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
71900.0	42.7	-58.2		69.2	571.2	205.6	8.7	1.000015
72000.0	42.5	-58.0		68.8	571.4	205.7	8.6	1.000015
72100.0	42.3	-57.9		68.4	571.6	205.8	8.5	1.000015
72200.0	42.1	-57.7		68.1	571.8	205.9	8.4	1.000015
72300.0	41.9	-57.6		67.7	572.0	206.0	8.3	1.000015
72400.0	41.7	-57.4		67.3	572.2	206.1	8.2	1.000015
72500.0	41.5	-57.2		66.9	572.5	206.2	8.0	1.000015
72600.0	41.3	-57.1		66.6	572.7	206.4	7.9	1.000015
72700.0	41.1	-56.9		66.2	572.9	206.5	7.8	1.000015
72800.0	40.9	-56.7		65.8	573.1	206.6	7.7	1.000015
72900.0	40.7	-56.6		65.5	573.3	206.7	7.6	1.000015
73000.0	40.5	-56.4		65.1	573.5	206.9	7.5	1.000014
73100.0	40.3	-56.3		64.8	573.7	207.0	7.4	1.000014
73200.0	40.1	-56.1		64.4	574.0	208.1	7.4	1.000014
73300.0	39.9	-55.9		64.0	574.2	209.6	7.5	1.000014
73400.0	39.7	-55.8		63.7	574.4	211.0	7.5	1.000014
73500.0	39.6	-55.6		63.3	574.6	212.3	7.6	1.000014
73600.0	39.4	-55.4		63.0	574.8	213.6	7.7	1.000014
73700.0	39.2	-55.3		62.6	575.0	214.9	7.8	1.000014
73800.0	39.0	-55.1		62.3	575.3	216.2	7.9	1.000014
73900.0	38.8	-55.0		62.0	575.5	217.4	8.0	1.000014
74000.0	38.6	-54.8		61.6	575.7	218.6	8.1	1.000014
74100.0	38.4	-54.6		61.3	575.9	219.8	8.2	1.000014
74200.0	38.3	-54.5		61.0	576.0	221.0	8.3	1.000014
74300.0	38.1	-54.6		60.7	575.9	222.1	8.4	1.000014
74400.0	37.9	-54.8		60.5	575.7	223.2	8.5	1.000013
74500.0	37.7	-54.9		60.2	575.6	223.1	8.5	1.000013
74600.0	37.5	-55.0		59.9	575.4	220.9	8.0	1.000013
74700.0	37.4	-55.1		59.7	575.2	218.5	7.6	1.000013
74800.0	37.2	-55.2		59.4	575.1	215.7	7.1	1.000013
74900.0	37.0	-55.4		59.2	574.9	212.6	6.7	1.000013
75000.0	36.8	-55.5		59.0	574.8	209.1	6.3	1.000013
75100.0	36.7	-55.6		58.7	574.6	205.2	6.0	1.000013
75200.0	36.5	-55.7		58.5	574.5	200.8	5.7	1.000013
75300.0	36.3	-55.6		58.2	574.6	195.9	5.4	1.000013
75400.0	36.1	-55.6		57.9	574.7	190.5	5.1	1.000013
75500.0	36.0	-55.5		57.6	574.8	184.6	4.9	1.000013
75600.0	35.8	-55.4		57.3	574.9	178.5	4.8	1.000013
75700.0	35.6	-55.3		57.0	574.9	171.7	4.7	1.000013
75800.0	35.5	-55.3		56.7	575.0	165.0	4.7	1.000013

STATION ALTITUDE 3989.00 FT MSL  
14 OCT. 63  
ASCENSION NO. 449 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODETTIC COORDINATES  
32.40043 LAT (LEG  
106.37033 LONG (LEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (IN)	SPEED KNOTS	INDEX OF REFRACTION
75000.0	35.5	-55.2		56.4	575.1	158.5	4.7	1.000013
76000.0	35.1	-55.1		56.1	575.2	152.1	4.8	1.000013
77000.0	35.0	-55.1		55.9	575.3	146.0	4.9	1.000012
78000.0	34.8	-55.0		55.0	575.4	140.2	5.0	1.000012
79000.0	34.6	-54.9		55.3	575.5	134.8	5.2	1.000012
70000.0	34.5	-54.9		55.0	575.6	129.9	5.5	1.000012
71000.0	34.3	-54.8		54.8	575.7	125.4	5.8	1.000012
72000.0	34.2	-54.7		54.5	575.8	121.4	6.1	1.000012
73000.0	34.0	-54.6		54.2	575.9	117.0	6.5	1.000012
74000.0	33.8	-54.6		53.9	576.0	114.6	6.8	1.000012
75000.0	33.7	-54.5		53.7	576.1	111.7	7.2	1.000012
76000.0	33.5	-54.4		53.4	576.1	109.2	7.6	1.000012
77000.0	33.4	-54.4		53.1	576.2	106.9	8.1	1.000012
78000.0	33.2	-54.3		52.9	576.3	105.5	8.3	1.000012
79000.0	33.0	-54.2		52.6	576.4	105.6	8.0	1.000012
70000.0	32.9	-54.2		52.3	576.5	105.8	7.8	1.000012
71000.0	32.7	-54.1		52.1	576.6	105.9	7.5	1.000012
72000.0	32.6	-54.0		51.8	576.7	106.1	7.3	1.000012
73000.0	32.4	-54.0		51.5	576.8	106.3	7.0	1.000011
74000.0	32.3	-53.9		51.3	576.9	106.5	6.8	1.000011
75000.0	32.1	-53.8		51.0	577.0	106.7	6.5	1.000011
76000.0	32.0	-53.7		50.8	577.1	106.9	6.3	1.000011
77000.0	31.8	-53.7		50.5	577.2	107.1	6.0	1.000011
78000.0	31.7	-53.6		50.3	577.2	107.4	5.3	1.000011
79000.0	31.5	-53.5		50.0	577.3	107.7	5.5	1.000011
70000.0	31.4	-53.5		49.8	577.4	108.0	5.3	1.000011
71000.0	31.2	-53.4		49.5	577.5	108.3	5.0	1.000011
72000.0	31.1	-53.3		49.3	577.6	107.7	4.9	1.000011
73000.0	30.9	-53.3		49.0	577.7	106.6	4.9	1.000011
74000.0	30.8	-53.2		48.8	577.8	105.4	4.8	1.000011
75000.0	30.6	-53.1		48.5	577.9	104.2	4.8	1.000011
76000.0	30.5	-53.0		48.3	578.0	103.0	4.8	1.000011
77000.0	30.4	-53.0		48.0	578.1	101.8	4.8	1.000011
78000.0	30.2	-52.9		47.8	578.2	100.6	4.7	1.000011
79000.0	30.1	-52.8		47.6	578.3	99.3	4.7	1.000011
70000.0	29.9	-52.7		47.3	578.4	98.1	4.7	1.000011
71000.0	29.8	-52.6		47.1	578.6	96.8	4.7	1.000010
72000.0	29.7	-52.4		46.8	578.6	95.6	4.7	1.000010
73000.0	29.5	-52.3		46.6	578.9	94.3	4.7	1.000010
74000.0	29.4	-52.2		46.3	579.1	93.0	4.6	1.000010

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 469 0800 MDT

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
7990.0	29.2	-52.0		46.1	579.3	91.7	4.6	1.000010
8000.0	29.1	-51.9		45.8	579.5	90.8	4.7	1.000010
80100.0	29.0	-51.7		45.6	579.7	90.4	5.0	1.000010
80200.0	28.8	-51.6		45.3	579.9	90.0	5.2	1.000010
80300.0	28.7	-51.5		45.1	580.1	89.6	5.5	1.000010
80400.0	28.6	-51.3		44.9	580.2	89.3	5.8	1.000010
80500.0	28.4	-51.2		44.6	580.4	89.0	6.0	1.000010
80600.0	28.3	-51.0		44.4	580.6	88.7	6.3	1.000010
80700.0	28.2	-50.9		44.2	580.8	88.5	6.5	1.000010
80800.0	28.0	-50.7		43.9	581.0	88.3	6.8	1.000010
80900.0	27.9	-50.7		43.7	581.1	88.0	7.1	1.000010
81000.0	27.8	-50.7		43.5	581.1	87.6	7.3	1.000010
81100.0	27.7	-50.6		43.3	581.1	87.7	7.6	1.000010
81200.0	27.5	-50.6		43.1	581.2	87.5	7.8	1.000010
81300.0	27.4	-50.6		42.9	581.2	87.3	8.1	1.000010
81400.0	27.3	-50.6		42.7	581.2	87.2	8.3	1.000010
81500.0	27.1	-50.5		42.5	581.3	89.0	8.3	1.000009
81600.0	27.0	-50.5		42.3	581.3	90.9	8.3	1.000009
81700.0	26.9	-50.5		42.1	581.3	92.7	8.3	1.000009
81800.0	26.8	-50.4		41.9	581.4	94.6	8.3	1.000009
81900.0	26.6	-50.4		41.7	581.4	96.4	8.3	1.000009
82000.0	26.5	-50.4		41.5	581.4	98.3	8.3	1.000009
82100.0	26.4	-50.4		41.3	581.5	100.1	8.4	1.000009
82200.0	26.3	-50.3		41.1	581.5	101.9	8.4	1.000009
82300.0	26.2	-50.3		40.9	581.6	103.7	8.5	1.000009
82400.0	26.0	-50.3		40.7	581.6	105.4	8.5	1.000009
82500.0	25.9	-50.3		40.5	581.6	107.2	8.6	1.000009
82600.0	25.8	-50.2		40.3	581.7	108.9	8.7	1.000009
82700.0	25.7	-50.2		40.1	581.7	110.6	8.7	1.000009
82800.0	25.6	-50.2		39.9	581.7	112.2	8.8	1.000009
82900.0	25.4	-50.2		39.7	581.8	116.1	8.7	1.000009
83000.0	25.3	-50.1		39.6	581.8	122.1	8.6	1.000009
83100.0	25.2	-50.1		39.4	581.8	123.2	8.5	1.000009
83200.0	25.1	-50.1		39.2	581.9	134.4	8.5	1.000009
83300.0	25.0	-50.1		39.0	581.9	140.5	8.6	1.000009
83400.0	24.9	-50.0		38.8	581.9	146.4	8.8	1.000009
83500.0	24.7	-50.0		38.6	582.0	151.9	9.1	1.000009
83600.0	24.6	-50.0		38.4	582.0	157.1	9.5	1.000009
83700.0	24.5	-49.9		38.3	582.0	161.6	9.9	1.000009
83800.0	24.4	-49.9		38.1	582.1	166.1	10.4	1.000008

STATION ALTITUDE 3989.00 FTT MSL  
14 OCT. 65 0800 MDT  
ASCENSION NO. 489

UPPER AIR DATA  
28/0020489  
WHITE SANDS

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METP	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (IN)	SPEED KNOTS	
83900.0	24.3	-49.9		37.9	582.1	170.0	11.0	1.000008
84000.0	24.2	-49.9		37.7	582.1	173.5	11.6	1.000008
84100.0	24.1	-49.8		37.5	582.2	176.6	12.3	1.000008
84200.0	24.0	-49.8		37.4	582.2	179.4	12.9	1.000008
84300.0	23.8	-49.7		37.2	582.3	181.6	13.6	1.000008
84400.0	23.7	-49.6		37.0	582.5	183.2	13.1	1.000008
84500.0	23.6	-49.5		36.8	582.7	184.0	12.7	1.000008
84600.0	23.5	-49.3		36.6	582.8	186.2	12.3	1.000008
84700.0	23.4	-49.2		36.4	583.0	187.6	11.9	1.000008
84800.0	23.3	-49.1		36.2	583.2	189.6	11.5	1.000008
84900.0	23.2	-48.9		36.0	583.4	191.5	11.1	1.000008
85000.0	23.1	-48.8		35.9	583.5	193.5	10.8	1.000008
85100.0	23.0	-48.7		35.7	583.7	195.6	10.4	1.000008
85200.0	22.9	-48.5		35.5	583.9	197.9	10.1	1.000008
85300.0	22.8	-48.4		35.3	584.0	200.4	9.8	1.000008
85400.0	22.7	-48.3		35.1	584.2	203.0	9.5	1.000008
85500.0	22.6	-48.1		34.9	584.4	205.8	9.2	1.000008
85600.0	22.5	-48.0		34.8	584.6	208.7	8.9	1.000008
85700.0	22.4	-47.9		34.6	584.7	211.9	8.7	1.000008
85800.0	22.3	-47.7		34.4	584.9	215.1	8.7	1.000008
85900.0	22.2	-47.6		34.2	585.1	218.1	8.9	1.000008
86000.0	22.1	-47.5		34.1	585.3	221.0	9.1	1.000008
86100.0	22.0	-47.3		33.9	585.4	223.8	9.4	1.000008
86200.0	21.9	-47.2		33.7	585.6	226.4	9.6	1.000007
86300.0	21.8	-47.1		33.5	585.8	228.8	9.9	1.000007
86400.0	21.7	-46.9		33.4	586.0	231.2	10.2	1.000007
86500.0	21.6	-46.8		33.2	586.1	233.3	10.6	1.000007
86600.0	21.5	-46.7		33.0	586.3	235.4	10.9	1.000007
86700.0	21.4	-46.5		32.8	586.5	237.3	11.3	1.000007
86800.0	21.3	-46.4		32.7	586.6	239.1	11.6	1.000007
86900.0	21.2	-46.3		32.5	586.8	240.8	12.0	1.000007
87000.0	21.1	-46.1		32.3	587.0	242.3	12.4	1.000007
87100.0	21.0	-46.0		32.2	587.2	243.8	12.8	1.000007
87200.0	20.9	-45.9		32.0	587.3	245.2	13.2	1.000007
87300.0	20.8	-45.7		31.8	587.5	246.2	12.9	1.000007
87400.0	20.7	-45.6		31.7	587.7	247.1	12.4	1.000007
87500.0	20.6	-45.6		31.5	587.7	248.1	11.9	1.000007
87600.0	20.5	-45.6		31.4	587.6	249.1	11.5	1.000007
87700.0	20.4	-45.6		31.3	587.6	250.3	11.0	1.000007
87800.0	20.3	-45.7		31.1	587.6	251.5	10.6	1.000007



UPPER AIR DATA  
2870020489  
WHITE SANDS  
TABLE 12 Con't

STATION ALTITUDE 5989.00 FEET MSL  
14 OCT. 63 0800 MDT  
ASCENSION NO. 409

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
87900.0	20.2	-45.7		31.0	587.6	252.9	10.2	1.000007
88000.0	20.1	-45.7		30.8	587.6	254.3	9.7	1.000007
88100.0	20.0	-45.7		30.7	587.5	255.9	9.3	1.000007
88200.0	20.0	-45.7		30.6	587.5	257.7	8.9	1.000007
88300.0	19.9	-45.7		30.4	587.5	259.6	8.5	1.000007
88400.0	19.8	-45.7		30.3	587.5	261.7	8.1	1.000007
88500.0	19.7	-45.8		30.2	587.5	264.1	7.7	1.000007
88600.0	19.6	-45.8		30.0	587.5	266.6	7.3	1.000007
88700.0	19.5	-45.8		29.9	587.4	269.1	7.0	1.000007
88800.0	19.4	-45.8		29.8	587.4	267.5	6.9	1.000007
88900.0	19.3	-45.8		29.6	587.4	265.4	6.8	1.000007
89000.0	19.2	-45.8		29.5	587.4	263.5	6.8	1.000007
89100.0	19.2	-45.8		29.4	587.3	261.6	6.7	1.000007
89200.0	19.1	-45.9		29.2	587.3	259.6	6.6	1.000006
89300.0	19.0	-45.9		29.1	587.3	257.6	6.6	1.000006
89400.0	18.9	-45.9		29.0	587.3	255.5	6.6	1.000006
89500.0	18.8	-45.9		28.8	587.3	253.5	6.5	1.000006
89600.0	18.7	-45.9		28.7	587.2	251.4	6.5	1.000006
89700.0	18.6	-45.9		28.6	587.2	249.3	6.5	1.000006
89800.0	18.6	-46.0		28.5	587.2	247.2	6.5	1.000006
89900.0	18.5	-46.0		28.3	587.2	245.1	6.5	1.000006
90000.0	18.4	-46.0		28.2	587.2	243.0	6.5	1.000006
90100.0	18.3	-46.0		28.1	587.1	240.9	6.5	1.000006
90200.0	18.2	-46.0		28.0	587.1	238.8	6.5	1.000006
90300.0	18.1	-46.1		27.8	587.1			1.000006
90400.0	18.1	-46.1		27.7	587.1			1.000006
90500.0	18.0	-46.1		27.6	587.1			1.000006
90600.0	17.9	-46.1		27.5	587.0			1.000006
90700.0	17.8	-46.1		27.3	587.0			1.000006
90800.0	17.7	-46.1		27.2	587.0			1.000006
90900.0	17.7	-46.1		27.1	587.0			1.000006
91000.0	17.6	-46.1		27.0	587.0			1.000006
91100.0	17.5	-46.2		26.8	586.9			1.000006
91200.0	17.4	-46.2		26.7	586.9			1.000006
91300.0	17.3	-46.2		26.6	586.9			1.000006
91400.0	17.3	-46.2		26.5	586.9			1.000006
91500.0	17.2	-46.2		26.4	586.9			1.000006
91600.0	17.1	-46.2		26.3	586.8			1.000006
91700.0	17.0	-46.3		26.1	586.8			1.000006
91800.0	16.9	-46.3		26.0	586.8			1.000006

STATION ALTITUDE 3989.20 FFL MSL  
14 OCT. 83 0800 MDT  
ASCENSION NO. 480

UPPER AIR DATA  
2870020489  
WHITE SANDS

GEODLTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE	PRESSURE	TEMPERATURE	REL. HUM.	DENSITY	SPEED OF	WIND DATA	INDEX
FL	MM HG	AIR DEGREE	PERCENT	GM/CM <sup>3</sup>	SOUND	DIRECTION	OF
				METER	KNOTS	DEGREES (TR)	REFRACTION
91909.0	10.9	-46.3		25.9	580.6		1.0000006

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 83  
ASCENSION NO. 489

MANDATORY LEVELLS  
2870020489  
WHITE SANDS

GEODETIC COORDINATES  
32-40043 LAT DEG  
106-37033 LONG DEG

TABLE 13

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL. HUM.	WIND DATA	
		AIR	DEWPOINT		DIRECTION	SPEED
MILLIBARS	FEET	DEGREES	CENTIGRADE	PERCENT	DEGREES(TN)	KNOTS
850.0	4817.	19.4	9.0	51.	191.9	2.8
800.0	6515.	15.5	6.7	56.	243.1	12.4
750.0	8207.	10.6	3.2	60.	254.6	22.2
700.0	10169.	5.6	-0	67.	257.0	28.1
650.0	12147.	3.4	-18.4	18.	259.1	39.2
600.0	14262.	-0	-20.7	19.	247.3	43.8
550.0	16528.	-4.1	-25.5	17.	247.7	44.0
500.0	18978.	-8.1	-32.4	12.	252.8	43.8
450.0	21635.	-14.0	-34.4	16.	254.1	48.7
400.0	24525.	-21.7	-39.5	18.	259.5	51.2
350.0	27706.	-29.2	-45.2	19.	265.9	48.7
300.0	31245.	-39.2	-52.7	22.	261.2	54.3
250.0	35263.	-48.7			264.0	51.9
200.0	39976.	-58.0			240.9	61.2
175.0	42705.	-60.8			252.0	59.9
150.0	45864.	-61.0			261.0	59.4
125.0	49577.	-62.8			267.7	42.3
100.0	54075.	-63.3			250.2	37.3
80.0	58503.	-62.0			247.1	19.2
70.0	61311.	-58.8			230.5	14.1
60.0	64520.	-56.9			212.3	14.5
50.0	68322.	-56.2			169.5	9.1
40.0	72968.	-56.0			208.5	7.4
30.0	79011.	-52.8			99.2	4.7
25.0	82905.	-50.1			130.6	0.5
20.0	87737.	-45.7			250.0	9.3

END

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DTIC